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ABSTRACT

This report provides evaluation findings of the 1981-82 Promotional Gates program, a program designed to bolster instruction and learning in order to enable New York City public school students in grades four and seven to meet city-wide performance standards required for promotion. Altogether, there are six chapters. The first chapter deals with how well the program has been implemented and the degree of academic progress of Gates students in reading and mathematics skills. Chapter two outlines program activities which occurred prior to September 1981. Also discussed are issues of pupil accounting, student eligibility, selection of instructional programs, and selection and training of staff. Chapter three deals with program implementation, most notably, organization, support from central and district offices, teachers' reaction to curricula, impact of the program on participants and their recommendations. Chapter four analyzes achievement outcomes for students who were held over as a result of the Gates program. Chapter five presents synopses of four case studies of Gates participants in a bilingual, a district-optional, a self-contained, and a departmentalized Gates program, respectively. The final chapter highlights program organization, adherence to guidelines, and staffing. (WAM)

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O.E.E. Evaluation Report

December, 1982

A FINAL EVALUATION OF THE 1981-82 PROMOTIONAL GATES PROGRAM

Prepared by the

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UD 022 658

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ERRATA

-- On page 44, the third sentence of text should read: Only one (who handled more than 50 classes on a half-time basis) spoke solely of excessive pressure.

-- On page 65, the first sentence of the third full paragraph should read: LEP students who had been in English-language schools for more than four years were subject to promotional criteria on the CAT.

-- On page 139, the second sentence of the second paragraph should read: To do this, we examined test records of New York City fourth and seventh graders in 1979-80, and selected those students whose pre-test scores were comparable to those of Gates participants.

A SUMMARY OF THE REPORT

BACKGROUND

The Promotional Policy

A new promotional policy for the New York City Public Schools was promulgated on June 30, 1980 to "establish required performance standards and new city-wide curriculum standards." The policy reflects the belief that "a comprehensive citywide competency-based instructional program will, over a period of time, increase the number of students acquiring basic skills." The span from September, 1980 to June, 1982 was a period of transition, during which various aspects of the policy were phased in.

The Promotional Gates Program

Promotional criteria were established for the fourth and seventh grades in 1980-81, as specified in the Guidelines for Implementation (Chancellor's Regulation A-505), issued April 14, 1981. This regulation also established the 1981-82 instructional program for students held over in June, 1981. The policy states that students will not move forward until they are able to perform at prescribed levels; but as the guidelines point out, its intent is constructive and not punitive. The Promotional Gates Program was created to bolster instruction and learning by providing:

- reduced class size (15 to 20 students);
- instructional strategies proven effective in New York City classrooms;
- experienced teachers;
- staff development aimed at helping teachers use the instructional approaches;
- increased daily exposure, in terms of "time on task," to reading and mathematics instruction.

The promotional criteria enforced at the end of the 1980-81 school year were: attainment of a reading score on the California Achievement Test (CAT) of not more than one year below grade level in the fourth grade (grade equivalent of 3.7), and not more than one and one-half years below grade level in the seventh grade (grade equivalent of 6.2). The Guidelines specified that students held over be given intensive instruction in reading and mathematics.

Student Eligibility for the Promotional Gates Program

A total of 24,737 students -- 21.6 percent of all fourth and seventh graders tested in April, 1981 -- became eligible in 1981 for the Gates program based upon performance on the CAT. This total included 1,127 students assigned to special education resource rooms, and 820 limited English proficient students, who did not meet promotional criteria on the CAT. Of this total, 498 were exempted from Gates. Performance on the CAT in August, 1981 resulted in the promotion of 4,672 Gates-eligible students. In this way, 19,567 students were identified for program participation at the beginning of the 1981-82 school year. A total of 123 limited English proficient students participated in the Gates program after scoring below promotional criteria on the Criterion Referenced English Syntax Test (CREST). Students took the CAT or the CREST again in January and April, 1982; those who met the criteria at these points became eligible for promotion.

Scope of this Evaluation

Two overriding questions have guided this assessment: how well has the Gates program been implemented, and what has been the academic progress of Gates students? The first question takes into account the complexity of implementing an instructional program of this magnitude, centrally conceived and administered, in a decentralized school system. The second reflects the program's stress on basic skills acquisition.

PROGRAM IMPLEMENTATION

The Office of Educational Evaluation gathered information on numerous facets of program implementation from district facilitators, principals, teachers, and parents involved with Gates. Their responses reflect the diversity inevitable in a program which operates at so many sites.

Adherence to Guidelines

During the 1981-82 school year, the Gates program was put into operation at 543 schools in the five boroughs. The challenges of implementing a new program of this magnitude were met with considerable success: 1,311 teachers and district-level staff were recruited, and Gates classes were organized. Appropriate curricula -- exemplary/optional instructional strategies selected by the 32 community school districts -- were introduced. Most participants reported adherence to program guidelines, but problems surfaced in several areas, including identification of eligible students, recruitment of highly expert reading and mathematics teachers, and parental participation.

Program Support

The Office of Promotional Policy monitored the program and maintained contact with participants in the field. As the guidelines anticipated, district-level staff (facilitators) were the primary resources for Gates principals and teachers, providing assistance in staff development, acquisition of curricular materials, and other aspects of program implementation.

Gates staff agreed that ongoing teacher training is a key to the program's effectiveness. The great majority of teachers felt supported by their supervisors. At the same time, they stressed their need for more training in specific strategies for individualizing instruction. Facilitators and principals thought that supervisors should be receiving more training, and many facilitators wanted more training for themselves as well.

Reactions to Exemplary Programs

Facilitators' reactions to exemplary programs corresponded to the number of reading and math programs adopted in their districts: those responsible for the fewest curricula were most confident about the programs' effectiveness and their ability to implement them.

Principals -- particularly those who had participated in curricula selection -- were largely positive about the exemplary programs. Between the beginning and end of the school year, teachers expressed increased confidence in the curricula and their ability to apply them. In both reading and math, teachers were most positive about district-optional programs. Seventh-grade teachers gave the curricula lower ratings than fourth-grade teachers. Ratings of bilingual curricula were low among all groups.

Impact on Students

Teachers were asked about students' growth in self-esteem, social relations, work and study habits, and academic skills. The vast majority of teachers, particularly fourth-grade teachers, reported substantial growth in all areas. Most parents who returned questionnaires thought that the program had helped their children. Again, parents of fourth graders were more enthusiastic than parents of seventh graders.

Mid-Year Promotion

Teachers expressed mixed reaction to the policy of mid-year promotion; seventh-grade teachers regarded this policy more favorably. Those who approved of mid-year promotion considered it a matter of equity, and stressed the importance of incentive; those who disapproved urged the reinforcement of skills with a full year of program participation, and expressed concern about discouraging students who were not promoted mid-year.

Overall Reactions of Staff

Most facilitators and teachers said that they would choose to repeat their Gates assignment the following year. All facilitators, and the vast majority of principals and teachers, agreed that the program should be continued, although many suggested improvements. Expansion of student services (e.g., guidance and health) emerged as the program's most pressing need.

STUDENT ACHIEVEMENT

Evaluation Questions

The promotional policy which underlies the Gates program set a concrete goal for participating students: promotion to the fifth or eighth grade at the earliest possible date by scoring at or above the criterion for their grade on a standardized reading test. Attainment data constitute the most critical information in this evaluation. However, we also examined: gains in reading achievement by the total Gates population and sub-groups; mathematics achievement; and attendance.

Highlights of Findings

- 69.5 percent of Gates-eligible students with complete test records attained promotional criteria in either August, 1981, January, 1982, or April, 1982.
- Gates students were able to attain end-of-year promotional criteria in greater proportions than students in a comparison group.
- As a group, Gates students made significant progress in reading as measured on both the CAT and another test, the Degrees of Reading Power; their gains on the CAT were not substantially different from those of students in a comparison group.
- Students promoted in either August, 1981 or January, 1982 made higher gains in reading than full-year holdovers. Students promoted in April, 1982 also made significant gains.

- As a group, students who failed to attain promotional criteria and became double holdovers had pretest scores well below those of their Gates classmates, and posttest scores substantially below the promotional criteria.

- Fourth graders' attendance has remained stable or has slightly improved since they entered the program. The attendance of seventh-grade Gates students was problematic; the attendance rate for these students was lower in 1981-82 than in 1980-81.

CASE STUDIES: GATES IN OPERATION AT FOUR SITES

Observations detailed in case studies leave clear impressions of the 1981-82 Gates program as it functioned in two elementary and two intermediate schools. The following points suggest directions for future evaluations, but do not necessarily reflect the program's operation citywide.

The Chancellor's Guidelines for Implementation were in effect, with few exceptions. At all sites, participant identification, class size, instructional treatment, and administrative support conformed with these guidelines. Parental involvement was an exception: most teachers reported some initiative, but limited success in this area.

District-level commitment to the program emerged as an important variable at these sites; guidance services, parental participation, and provision of supplemental materials, were related to this support. Consistent encouragement from principals and well informed supervision were also important factors.

Exemplary programs selected by the districts were followed or adapted at three of the four sites. Staff were generally satisfied with the curricula. Classroom organization and teaching styles varied markedly, but students at all sites were paying attention to instruction, and evaluators observed that learning was taking place.

The program functioned more effectively in the elementary than the intermediate schools. While fourth-grade teachers were generally positive about the program, its impact on their students, and the support they received, seventh-grade teachers were less enthusiastic. Most felt that identification and treatment of Gates students should take place earlier. While some said they had benefited from the assignment, others were frustrated at the lack of support services, and thought that being held over had discouraged their students.

The case studies point toward a number of areas which need further attention: limited guidance services; partial isolation of Gates students due to scheduling problems, especially in the intermediate schools; and increased test anxiety and worries about future prospects among some seventh-grade Gates students.

The program's strengths, as indicated by the studies, include: strong social bonding -- a sense of pulling together -- among Gates students; enhanced self-esteem stemming from individual attention and special activities, especially among fourth graders; possibilities for small-group and one-to-one instruction; and multi-level support available to Gates teachers.

MAJOR CONCLUSIONS

Since 1980, the school system has made substantial progress in articulating performance standards for its students and instructional approaches designed to help students meet those standards. In 1981-82, a large-scale, complex program, which maintains curricular and promotional standards while allowing for local input, has been implemented across the system.

The policy established promotional Gates at grades four and seven. Results of this evaluation indicate that the policy was more effective and better received at grade four than at grade seven.

The guidelines for program implementation directed that each student be assisted in "developing skills through a well planned intensive instructional program not limited by the constraints of time." To carry out this commitment and assure equity, students were offered the opportunity to advance out of the program at three points during the year.

Data elaborated in this report indicate that the 70 percent of Gates-eligible students who met the promotional criterion for their grade during the school year were, in terms of basic skills, better prepared to handle work at the next grade level than they would have been in the absence of the Gates program.

For the 30 percent of Gates students who became double holdovers, actually only five percent of all 1981 fourth and seventh graders, one year was not sufficient to close the pre-existing gap between them and classmates who gained promotion. This was surely disappointing for the children themselves, their parents, and for the Gates staff who worked with them. However, the very low pretest scores of this group made it difficult to measure accurately their actual gains in reading. While they did not attain the same level of skill proficiency as their peers, they may well have made progress in reading which test data do not reflect. In addition, the promotional policy has focused the attention of the system on their needs. Identification of the specific difficulties which hamper the educational growth of this group of students and determination of ameliorating treatment should be a high priority in

1982-83. Particular attention should be given to the causes and improvement of poor attendance patterns.

Finally, the promotional policy has required an unprecedented degree of coordination between people who staff the school system's central offices and people in the field. They have begun to work together more closely to consider effective instructional approaches, to introduce more specialized staff development, and to strenghthen the basic skills of the city's lowest achieving students. This concerted effort, and especially the sharpened focus on low achievers' specific needs, promises to have a long-term salutory effect on the school system as a whole.

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PREFACE

The poet T.S. Eliot wrote, "Between the idea and the reality ...falls the shadow." So it is with the 1981-82 Promotional Gates Program, a complex, large-scale effort which, even for close observers, is probably obscured by the press of time and events. The purpose of this report is to shed some light on the Gates program and thereby make it more palpably visible to those interested in its implementation and effects.

As the reader will soon discover, this is a long, detailed report -- a fact which reflects the scope of the program itself and the great many questions about Gates raised both inside and outside the school system. Even so, not all questions are addressed and answered here. Some must be left for future evaluations of the program.

We have made an effort to present an enormous amount of data as simply as possible. Nevertheless, some questions, to be answered correctly, require the use of statistical procedures and test metrics which may not be familiar to the general public. Parts of the report are surely difficult, but the persistent reader will be rewarded with a wealth of information about the Gates program. The chapter which summarizes our case studies is particularly revealing, and should not be overlooked, because it adds texture to the more conventionally analytic sections of the report.

In addition to the authors listed on the title page, many other people contributed to the evaluation effort. Armando Cotayo and Judy Lawrence served as field consultants and contributed especially to the case studies. Susan Morgulas and Eileen Leonard assisted in the development of data collection instruments. Rivka Oldak and Bob Denmark helped solve some of the more difficult methodological problems. Chaya David, Rebecca Goldstein, David Miller, and Joyce Negrin did the computer programming. Marina Gorbis and Madeline Strum worked as our college interns during the summer. Regina Illery and Wendy Glaude handled the production of the report. Jackie Wong Posner and April Singer produced the charts and tables.

Richard Guttenberg
Director
Office of Educational Evaluation

I. INTRODUCTION

THE PROMOTIONAL POLICY

The Promotional Policy for Students in Grades Kindergarten Through Grade 9 of the New York City Public Schools (Chancellor's Regulation A-501) was promulgated on June 30, 1980. The stated purpose of this regulation was to "establish required performance standards and new citywide curriculum standards." The policy reflects the belief that "a comprehensive citywide competency-based instructional program will, over a period of time, increase the number of students acquiring basic skills." The policy characterizes the span from September, 1980 to June, 1982 as a period of transition, during which various aspects of the policy would be phased in. During this transition period, promotional policies in effect prior to June, 1980 remained operative for all grades except four and seven. The policy established promotional gates in grades four and seven as of the 1980-81 school year. The regulations state:

> Grade 4 was selected as a check point after a careful review of relevant literature which suggested that the sequence from reading readiness to reading comprehension should be achieved by the end of the 4th grade. Grade 7 was selected as a check point because it allows for remediation before students enter a terminal grade.

THE PROMOTIONAL GATES PROGRAM

The promotional criteria to be applied in the fourth and seventh grades during 1980-81 were specified in the Guidelines for the Implementation of Promotional Policy for Students in Grade Four and Grade Seven (Promotional Gates), Chancellor's Regulation A-505, hereafter referred to as Guidelines for Implementation), issued April 14, 1981. This regulation also established the 1981-82 instructional program for students held over in June, 1981. The Guidelines for Implementation state:

> The intent of the Promotional Policy is constructive and not punitive. Each student is to be assisted in developing skills through a well planned intensive instructional program not limited by the constraints of time.

The promotional criteria enforced in grades four and seven in the 1980-81 school year were: attainment of a reading score (on the California Achievement Test) of not more than one year below grade level in the fourth grade, and not more than one and one-half years below grade level in the seventh grade. Limited English proficient students who had been in an English-language school system for less than four years were subject to promotional criteria on the Criterion Referenced English Syntax Test. The Guidelines for Implementation state that, "All students who are retained in grade four or grade seven because of failure to meet required reading achievement levels must be placed in special instructional programs offering intensive remediation in reading, mathematics, [and writing in 1982-83]."

SCOPE OF THIS EVALUATION

This evaluation of the 1981-82 Promotional Gates Program is the last of four reports issued by the Office of Educational Evaluation in

1981-82.*

Two overriding questions have guided these assessments: how well has the Gates Program been implemented, and what has been the academic progress of Gates students? The first question takes into account the complexity of implementing an instructional program of this magnitude, centrally conceived and administered, in a decentralized school system. The second reflects the program's stress on basic skills acquisition. Some important issues have not been fully addressed in this year's evaluation, most notably: the non-academic effects of the Gates program on students; and the effect of the promotional standard on students who attained that criterion in 1981. These questions have been left to future years' evaluations.

Chapter II of the report, "Program Background," outlines program activities which occurred prior to September, 1981. Chapter III, "Program Implementation," reports reactions of program staff and parents to Gates in practice. Chapter IV, "Student Achievement," analyzes achievement outcomes for students who were held over as a result of the Gates program. Chapter V presents a synopsis of four case studies conducted by the evaluation team. These case studies are an attempt to provide a school and classroom-level view of the program. Conclusions are presented in Chapter VI.

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*The three previous Office of Educational Evaluation reports are: "An Analysis of Summer School Participation and August, 1981 Test Scores" (October, 1981); "An Assessment of Staff Training in the Exemplary Programs, August, 1981 (January, 1982); and "Mid-Year Assessment and Analysis of January, 1982 Test Results" (March, 1982).

II. PROGRAM BACKGROUND: APRIL - AUGUST, 1981

SELECTION OF STUDENTS

All fourth- and seventh-grade students, including mainstreamed special-education students, were given the California Achievement Test (CAT) Form D in April, 1981. The Chancellor's Regulation set the promotional criteria at grade equivalent scores on the CAT of 3.7 in the fourth grade and 6.2 in the seventh grade. Limited English proficient students who had been enrolled in an English-language school system for fewer than four years were tested for promotion with the Criterion Referenced English Syntax Test (CREST).* Promotional criteria were set at different levels for students who had been in bilingual programs for two, three, and four years.

APPEAL PROCEDURES

Appeals for exemption from the promotional policy were initiated in 1981-82 either by parents or by a school through its principal. Those initiated by principals were sent to the appropriate district superintendents. Appeals approved by the superintendents were forwarded to the Office of Promotional Policy for review and approval in the name of the Chancellor. Appeals initiated by a principal but denied by the district superintendent could not be further appealed; however, at this point, a parent could initiate an alternate procedure.

Parents could appeal the retention of their children to the school principal. If the principal supported the appeal, the process described above was put into motion; if not, the parent could still appeal directly to the district superintendent. If denied by the superintendent, the parent could direct the appeal to the community school board and, finally, to the Chancellor via the Office of Promotional Policy.

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*The CREST, a locally developed criterion-referenced test, has been used in many of New York City's bilingual and English as a second language programs since 1978.

The Office of Promotional Policy did not issue written directions for the appeal procedure for 1981-82. Instead, the Assistant Superintendent for Promotional Policy held individual conferences with district superintendents who assumed responsibility for publicizing this information. The Assistant Superintendent personally reviewed all appeals which reached the Office of Promotional Policy, relying heavily on information provided by the districts.*

1981 SUMMER SCHOOL AND AUGUST, 1981 TESTING

A six-week remedial reading program was conducted for Gates-eligible students in July and August, 1981. Attendance was optional and all holdovers were eligible to take the August, 1981 CAT regardless of summer school participation. The Office of Educational Evaluation conducted an assessment of the 1981 summer program and issued a report on October 5, 1981. The report concluded that a large percentage of students benefited from re-testing in August and that regular attendance in the summer program was associated with improved student achievement.

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*The Office of Promotional Policy has instituted a new exemption/appeals process, more formal and rigorous, for 1982-83; the process will be described and assessed in subsequent evaluation reports.

PUPIL ACCOUNTING

The complexity of coordinating a reporting system involving several organizational units, combined with the need for timely information, made pupil accounting one of the program's more difficult tasks in the early stages of implementation. The Promotional Gates Program required that individual students' test scores and information on program eligibility be reported to schools and central offices more rapidly than the school system had ever done before. It called for a new reporting system, allowing for a high degree of interaction and cooperation among at least four separate organizational units of the school system's central administration and an independent test-scoring contractor. As this system was put in place, data on student eligibility and program participation were treated as preliminary until all information was available and analyzed.

In spring, 1982, the Office of Educational Evaluation created a file of all fourth- and seventh-grade students tested in April, 1981; August, 1981; September, 1981 (makeup examinations); and January, 1982. These records were matched, using two separate algorithms based upon combinations of a student's identification number, name, and date of birth. This file was then matched to the file of the April, 1982 citywide test administration for grades four, five, seven, and eight to gather posttest scores and information on Gates program participation. The resulting file is a complete test history of fourth- and seventh-grade holdover students in 1981-82.

Analysis of the completed data base permits more definitive statements about program eligibility than were possible during the 1981-

82 school year. Despite initial problems, data on pupil eligibility and program participation reported preliminarily during the school year are not at great variance with what appears in the completed test-history file.

STUDENT ELIGIBILITY

The Gates data base indicates that 22,047 eligible students scored below the promotional criteria on the April, 1981 California Achievement Test. An additional 1,936 students who did not take the April, 1981 CAT received scores below the criteria on the August, 1981 CAT. In addition, 754 students (absent from the April and August tests) who took makeup tests in their schools in September, 1981 became eligible for the Gates program. A total of 24,737 students (21.6 percent of all 1981 fourth and seventh graders) were identified in 1981 as eligible for the Promotional Gates Program based upon performance on the CAT. This total included 1,127 students (834 fourth graders and 341 seventh graders) assigned to special education resource rooms, who did not meet the promotional criteria on the CAT.

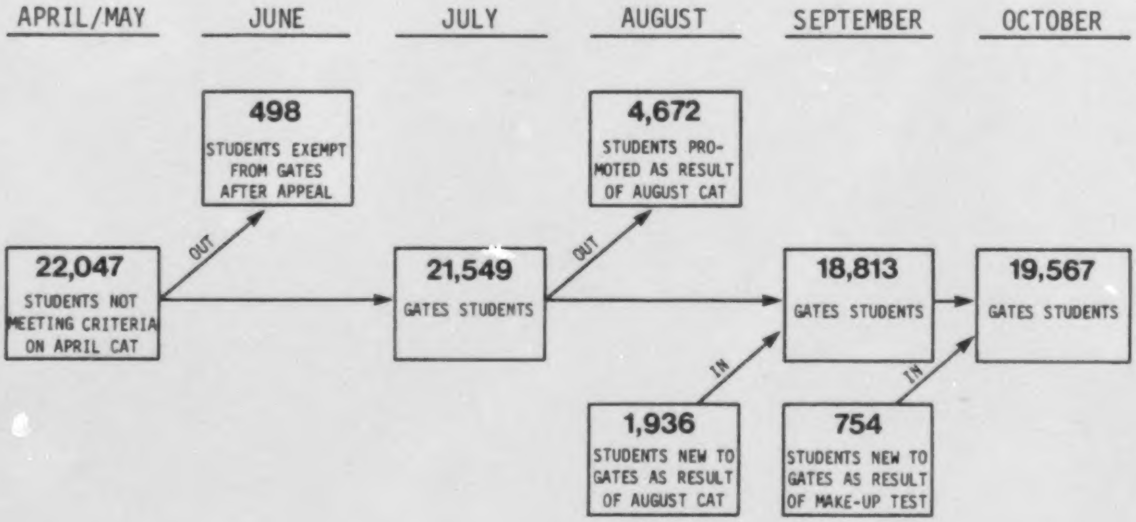
Of this total, 498 were exempted from Gates by the Assistant Superintendent for Promotional Policy. Performance on the CAT in August, 1981 resulted in the promotion of 4,672 Gates-eligible students. In this way, 19,567 students were identified for program participation by October, 1981. The identification process and data are summarized in Table 1 and Figure 1.

In addition to those students who failed to meet promotional criteria on the CAT, 123 limited English proficient students participated in the Gates program after having failed to meet promotional criteria on the CREST.

TABLE 1
Student Eligibility for the Promotional Gates Program

	Total	Grade 4	Grade 7
Eligible students scoring below criterion in April, 1981	22,047	9,653	12,394
Appeals granted — June, 1981	− 498	− 269	− 229
Eligible holdovers — July, 1981	21,549	9,384	12,165
Students (with April scores) above criterion in August, 1981	−4,672	−2,124	−2,548
Students below criterion in August (lacking April scores)	+1,936	+ 882	+1,054
Eligible holdovers — September, 1981	18,813	8,142	10,671
Students below criterion in September, 1981 (makeups)	+ 754	+ 355	+ 399
Eligible holdovers — October, 1981	19,567	8,497	11,070

FIGURE 1
Number of CAT-Tested Students in Gates, April, '81 to October, '81


APRIL/MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
498
STUDENTS EXEMPT FROM GATES AFTER APPEAL
4,672
STUDENTS PROMOTED AS RESULT OF AUGUST CAT
OUT
OUT
22,047
STUDENTS NOT MEETING CRITERIA ON APRIL CAT
21,549
GATES STUDENTS
18,813
GATES STUDENTS
19,567
GATES STUDENTS
IN
IN
1,936
STUDENTS NEW TO GATES AS RESULT OF AUGUST CAT
754
STUDENTS NEW TO GATES AS RESULT OF MAKE-UP TEST

SELECTION OF INSTRUCTIONAL PROGRAMS

Before the Gates program started, the Division of Curriculum and Instruction designated as exemplary four reading programs, two writing programs,* and two mathematics programs. Each program had been used successfully in a range of New York City community school districts, and was endorsed by district administrators, supervisors, and teachers. All were deemed appropriate for a broad range of urban instructional settings. From a practical viewpoint, each offered ready materials for duplication, and required a manageable regimen of staff development. Optional programs selected by individual district superintendents for use by their schools had to meet similar criteria. Each reading program was to be embedded in a total communication-arts curriculum designed by the Division of Curriculum and Instruction or developed by district curriculum specialists. Appendix A contains a brief description of each exemplary instructional program; Table A-1 indicates the 32 community school districts' adoption of curricula, by subject and grade.

The four reading programs -- Exemplary Center for Reading Instruction (ECRI); High Intensity Learning System (HILS-II); Learning to Read Through the Arts (L.R.A.); and Structured Teaching in the Area of Reading (STAR) -- were presented to district superintendents at borough conferences. Four selected ECRI, four chose HILS-II, and two selected STAR for use by all Gates classes in their district. Fourteen districts implemented two or more reading programs, and seven districts implemented optional, district-developed reading programs in all their Gates classes. (One district which had implemented an optional program in all Gates classes during the fall used HILS-II in all seventh-grade Gates classes for the remainder of the year.) The one remaining district based an optional program on its Title I model, and employed thematic units from Learning to Read Through the Arts.

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*Writing programs were not mandated for the 1981-82 school year.

Two exemplary mathematics curricula -- Diagnostic Prescriptive Arithmetic (D.P.A.) and Real Math (R.M.) -- were presented to district superintendents. Six districts selected D.P.A. and four selected R.M. for implementation in all Gates classes; 13 districts selected D.P.A. for some Gates classes and R.M. for others. Nine districts received permission to implement optional, district-developed mathematics programs.

The Office of Bilingual Education developed a language arts curriculum for bilingual Gates classes. Most bilingual classes implemented this curriculum in conjunction with the exemplary or optional reading and mathematics programs used in their districts.

SELECTION AND TRAINING OF GATES STAFF

Selection and Background of Gates Teachers

The Chancellor's Guidelines for Implementation specified seven criteria for selection of Promotional Gates teachers. Teachers were eligible if they:

1. had demonstrated effectiveness working with students who function below the required performance standards in the reading, writing, and mathematics basic skills areas;
2. had knowledge of a variety of teaching resources and techniques useful with students who function below the required performance standards;

3. were willing to participate in staff development workshops, conferences, and training sessions;
4. were willing to hold individual conferences with parents as often as necessary and to encourage parent involvement;
5. had three or more years of successful teaching experience;
6. were available for participation in paid staff development activities during the last two weeks in August;
7. had demonstrated skill in the appropriate curriculum for fourth- or seventh-grade remediation classes.

Community school districts reported that 1,311 teachers taught Gates classes in 1981-82. Completed teacher information forms were obtained from 1,190* (90 percent) of these teachers, more of whom taught seventh (675) than fourth grade (515). Their responses suggest the extent to which selection of these teachers conformed to the guidelines. Since most (86 percent) fourth-grade teachers taught both communication arts and mathematics, their responses are usually reported collectively in this report. Seventh-grade communication arts and mathematics teachers' responses are reported separately where appropriate, since most (83 percent) teachers at this grade level taught only one or the other subject. Although some (14 percent) fourth-grade teachers taught only reading or mathematics, and some (17 percent) seventh-grade teachers taught both reading and mathematics, grouping responses in this way simplifies discussion of staff characteristics. (See Table 2.)

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*Completed forms were obtained from an additional 366 teachers who attended Gates training in summer, 1981 but were not assigned to a Gates class in 1981-82.

TABLE 2
Teaching Responsibilities of Gates Teachers[a]

Grade	Subject area taught						Total
	Communications arts		Mathematics		Communications arts and mathematics		
	N	%	N	%	N	%	N
Four	42	8%	30	6%	441	86%	513
Seven	347	52	211	31	115	17	673
Total	389	33%	241	20%	556	47%	1,186[b]

[a] This table refers to teachers who completed information forms.

[b] An additional two fourth- and two seventh-grade teachers did not indicate their area of instruction.

Teachers were asked to indicate whether they had volunteered for or were assigned to the Gates program. More fourth- than seventh-grade teachers volunteered (74 and 61 percent, respectively).

Fourth- and seventh-grade teachers' educations were comparable. All possessed a bachelor's degree and 76 percent had obtained a master's degree. Almost half (46 percent) of the teachers had also completed credits beyond their master's degree.

Gates teachers' prior teaching experience is comparable to that of the general population of New York City school teachers. More than 90 percent had taught for at least four years prior to their Gates assignment. Often their teaching experience had been with students at the same level as those in their 1981-82 Gates classes. Sixty-eight percent of the fourth-grade teachers had at least four years of experience teaching third, fourth, or fifth grade, and 81 percent of the seventh-grade teachers had taught sixth, seventh, or eighth grade for four or more years.

A significant number of Gates teachers gained experience in remedial instruction for the first time. Less than half (49 percent) of the fourth-grade teachers had taught a remedial reading class and fewer (29 percent) were experienced with remedial mathematics instruction. These figures are somewhat higher for seventh-grade teachers. Sixty-nine percent of those teaching communication arts at the seventh-grade level had at least one year of experience teaching remedial reading, and 49 percent of those teaching a Gates mathematics class had taught remedial mathematics before. Although some Gates teachers had experience with remedial instruction, few were licensed (by the city) or certified (by the state) for remedial reading or mathematics instruction. (See Tables 3 and 4.)

Pre-Service Gates Training

Gates teachers were asked about their familiarity with the exemplary and district-optional programs selected for the Gates classes in their schools. The vast majority had not taught these curricula prior to the 1981-82 school year. Ninety-two percent of the fourth-grade teachers and 86 percent of the seventh-grade reading teachers had never taught the reading curriculum assigned to them. Similarly, 91 percent of the fourth-grade and 88 percent of seventh-grade mathematics teachers had no prior experience with the mathematics curriculum assigned to them.

Prospective Gates teachers were expected to participate in pre-service training to prepare for their Gates assignments. Five half-days of training in each of the exemplary reading and mathematics programs were sponsored by the Division of Curriculum and Instruction during the last

TABLE 3
New York State Teaching Certifications Held by Gates Teachers

Certificate	% of teachers holding certificates		
	Fourth-grade teachers	Seventh-grade teachers	
		Communication arts	Mathematics
	(N[a]=483)	(N=441)	(N=282)
K—6th grade	88%	28%	35%
Reading	9	19	6
English	1	38	19
Mathematics	0	1	26
Special education	2	2	1
Other	8	24	23
Total[b]	108%	112%	110%

[a] Number of teachers responding to question. Some seventh-grade teachers taught both communication arts and mathematics.

[b] The percentages exceed 100 percent because teachers can hold more than one teaching certificate.

TABLE 4
New York City Teaching Licenses Held by Gates Teachers

Licenses held	% of teachers holding license		
	Fourth-grade teachers	Seventh-grade teachers	
		Communication arts	Mathematics
	(N[a]=483)	(N=462)	(N=326)
Early childhood	9%	3%	2%
Common branches	91	35	41
E.S.L.	1	1	0
English	0	45	10
Bilingual common branches	10	5	4
Mathematics	0	2	33
Other	3	22	21
Total[b]	114%	113%	111%

[a] Number of teachers responding to question. Some seventh-grade teachers taught both communication arts and mathematics.

[b] The percentages exceed 100 percent because teachers can hold more than one teaching license.

two weeks of August, 1981. One to four days of summer training were provided by individual districts in district-optional reading and mathematics programs. Abbreviated versions of these sessions were also held for Gates supervisors.

Most of the teachers in the 1981-82 Gates program attended the sessions sponsored by the Division of Curriculum and Instruction or those provided by their districts. However, more seventh-grade mathematics teachers (27 percent) failed to attend summer pre-service training than those assigned to teach seventh-grade reading (17 percent) or fourth-grade reading (11 percent) or mathematics (12 percent). Those teachers who did not attend summer sessions received in-service training during the school year.

Participants in the summer training completed evaluation forms at the close of the sessions.* Forms were obtained from 1,046 teachers and 289 supervisors who received training in the exemplary curricula, and from 309 teachers who participated in district-sponsored training sessions. (See Table 5.) Participants' ratings of training in the district-optional programs and the exemplary mathematics curricula were generally more positive than ratings of sessions on exemplary reading curricula. Among participants rating staff development in reading, ECRI teachers gave the lowest ratings. This may have resulted from the detailed and prescriptive teaching behaviors which ECRI teachers are re-

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*See the January, 1982 Office of Educational Evaluation report "The Promotional Gates Program: An Assessment of Staff Training in the Exemplary Programs."

TABLE 5
Teachers' Ratings of Curricula after the August, 1981 Training

Question	Reading curricula					Math curricula		
	ECRI (N=147)	STAR (N=233)	HILS (N=215)	L.R.A. (N=13)	Optional (N=216)	D.P.A. (N=241)	R.M. (N=197)	Optional (N=136)
Understand the program	32%	33%	59%	46%	62%	52%	64%	73%
Agree with program philosophy	43	54	60	61	70	63	65	67
Agree with program methods	39	54	58	54	69	64	64	69
Believe program will be effective	49	55	59	61	70	67	60	74
Feel prepared to teach program	20	37	56	54	64	49	66	67

- **Teachers trained in optional curricula, both in reading and mathematics, responded most positively in every area.**
- **HILS and L.R.A. teachers were more positive than reading teachers trained in ECRI or STAR. Only one in five ECRI teachers felt prepared to teach the program at the end of summer training.**
- **The range of responses from teachers trained in various math programs was relatively narrow; D.P.A. teachers were somewhat less secure than others in other their grasp of the program and preparedness to teach it.**

quired to use. In general, teachers' responses suggest insecurity and feelings of unpreparedness at the onset of the Gates program's first year. However, as indicated in the next section of the report, teacher insecurity abated considerably once the school year got under way.

III. PROGRAM IMPLEMENTATION: SEPTEMBER, 1981 - JUNE, 1982

SOURCES OF INFORMATION

The Office of Educational Evaluation gathered information on the Promotional Gates Program -- its workings day-to-day, its strengths, its limitations -- from the people most directly involved with Gates students (teachers and parents) and the individuals providing administrative and technical support (district facilitators and principals). These participants were asked to identify activities which helped or hampered program implementation, and to address the following areas: conformity to guidelines; staff development; administrative and technical support; curricula; and the program's impact on its participants. Recommendations were elicited as well. Strategies used to collect data were designed to capture the broadest possible representation at each participant level.*

Facilitators

Each of the 32 Gates district facilitators was interviewed during spring, 1982.

Principals

Survey forms were distributed to the 543 principals with Gates classes in their schools at the annual spring, 1982 borough-wide principals' meetings or mailed directly to the schools. Responses were collected anonymously, but principals were asked to identify their districts and the grade level of Gates classes in their schools. The 243 principals who completed the survey represented 45 percent of those with Gates classes. The rate of response varied by district from zero to 83 percent. This variance did not correspond to the number of Gates sites per district, and apparently reflects some other district characteristic.

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*Copies of field survey instruments are available on request from the Office of Educational Evaluation.

Teachers

Teacher survey forms were distributed through Gates district facilitators during spring, 1982, primarily at district staff development meetings. Facilitators were also asked to distribute the forms to teachers who had not attended the meetings and to encourage them to respond. This method of distribution resulted in a very high response rate. Completed forms were obtained from 797 teachers, 67 percent of the 1,311 Gates teachers.

The information provided anonymously by respondents to this survey was compared with that provided earlier in the year on teacher information forms. As on the teacher information forms, two-thirds of the survey respondents reported that they had volunteered for their Gates positions. As previously reported, more fourth-grade teachers were volunteers.

Response to the survey apparently introduced some bias: respondents were primarily those who attended workshops, which focused more on communication arts than on mathematics; fourth-grade teachers were more highly represented both at workshops and in the survey (76 percent) than were seventh-grade teachers (58 percent). Table 6 indicates the characteristics of teachers who completed the survey.

TABLE 6
Response to Teacher Survey

Responsibilities	Grade 4			Grade 7			Combined grades		
	Number of teachers[a]	Response to survey		Number of teachers[a]	Response to survey		Number of teachers[a]	Response to survey	
		N	%		N	%		N	%
Communication arts	42	18	43%	347	213	61%	389	231	59%
Mathematics	30	13	43	211	81	38	241	94	39
Communication arts and mathematics	441	358	81	115	79	69	556	437	79
No information on grade level	•	•	•	•	•	•	•	17	•
No information on instructional area	2	2	•	2	16	•	4	18	•
Total	515	391	76%	675	389	58%	1,190	797	67%

[a] Number of respondents completing the teacher information form.

- **The most highly represented group was fourth-grade communication arts/mathematics teachers (81 percent).**
- **The least represented group was seventh-grade mathematics teachers (38 percent).**

The response rate also varied by district from 34 percent to 100 percent. There was a slight tendency for districts with fewer Gates classes to have a higher rate of response than those with more Gates classes, but there were several exceptions to this. Some facilitators were evidently more diligent or successful than others in obtaining responses from teachers.

Parents

In June, 1982, the Office of Educational Evaluation distributed a survey in English and Spanish to the parents of Gates students. Students were asked to take the survey home; parents were asked to complete the survey anonymously and return it in a postage-paid envelope. In addition to their general reaction to the Gates program, parents were asked about their contact with the school during the year, and their knowledge of the program prior to September, 1981.

By mid-July, 2,352 parents (13 percent) had responded to the survey. Seventy-nine percent of the respondents used the English version of the survey and 21 percent used the Spanish version. To be representative of the numbers of Gates parents at each grade level, the number of responses from parents of fourth- and seventh-graders should have been approximately equal. This was not the case; surveys were returned by 1,529 parents of fourth-graders and 823 parents of seventh-graders.

ORGANIZATION OF THE PROGRAM

The citywide Promotional Gates Program was centrally administered. Under the direction of the Deputy Chancellor for Instruction, the Office of Promotional Policy (O.P.P.) monitored the program. Instructional support services were provided by the Division of Curriculum and Instruction. Community superintendents were responsible for implementing the program in their districts; principals were responsible for classes in their schools.

As head of O.P.P., the Assistant Superintendent for Promotional Policy was responsible for monitoring the program, interpreting policy, and ruling on student exemptions. His six assistants visited schools, meeting with Gates district facilitators and school supervisors to review problems, interpret program guidelines, and review student classroom assignments. They also visited classrooms to determine the extent of program implementation, to check on the availability of materials, and to address teachers' questions and concerns.

The central administration funded a half-time Gates facilitator position in each of the 32 districts. Eighteen districts contributed additional funding and assigned the facilitator more than half-time to Gates. The proportion of the facilitator's time assigned to Gates did not reflect the number of Gates classes in the district, and appears to suggest, rather, the district's commitment to the program.

Selected by community superintendents, the facilitators were the primary resource and contact persons in the districts. The facilitators were selected on the basis of prior district-level experience in administration, curriculum development, and staff development. The facilitators' responsibilities included monitoring and interpreting policy, providing materials, improving communication with parents, and assisting teachers and supervisors on an individual basis.

Gates principals or their designated assistant principals were responsible for the day-to-day supervision of Gates classes in the schools. The Gates supervisors' responsibilities included the selection of teachers, organization of Gates classes, provision of materials, implementation of curricula, parental involvement, and improvement of instruction. Essentially, these are the same responsibilities that school supervisors have for all classes.

CONFORMITY TO GUIDELINES

Student Placement

Two out of three responding principals reported some difficulties in implementing student eligibility criteria. CAT eligibility criteria, although clearly delineated in the Guidelines for Implementation, were problematic for 22 percent of principals. Newly admitted students without test histories posed problems for 42 percent. Twenty-two percent found criteria for placement of limited English proficient (LEP) students (as specified in notices from more than one unit of the central administration) confusing or unfair; special education eligibility criteria, in the absence of evaluation or placement, posed problems for 24 percent.

One-half of the district facilitators agreed that LEP criteria were confusing or unfair. One-fourth of the facilitators thought that special provisions for resource-room students constituted an unfair advantage over other "unidentified" Gates students who were equally in need of these provisions.

Class Organization

District facilitators were confident that, after some initial confusion, all districts complied with requirements for class size (15 to 20 students) spelled out in the Guidelines for Implementation. Only eight percent of the principals reported any difficulty in adhering to this guideline. Teachers' reports of their average class registers, however, did not completely agree with principals' reports: while 65 percent of teachers reported that the average size of their registers was between 15 and 20, a third (32 percent) reported smaller registers and three percent reported registers above 20. These data were collected at the end of the school year; class registers therefore do not include

Gates participants who tested out of the program mid-year. Registers below the stated minimum were more prevalent in fourth- than in seventh-grade classes; registers above the maximum were more prevalent in seventh- than in fourth-grade classes.

Finding space for an increased number of smaller classes was a problem for 12 percent of elementary and junior high school principals. In other respects, organization of Gates classes proved problematic for junior high, but not for elementary school principals. Thirty-one percent of junior high principals reported problems in scheduling Gates classes according to guidelines; for 19 percent, establishing self-contained classes posed difficulties, apparently related to teacher recruitment problems.

Teacher Selection

Teacher recruitment seemed to cause considerable difficulty. Half of the district facilitators stated that the guidelines were not always followed, primarily because of shortages of well-qualified volunteers. Only 55 percent of the teachers considered the guidelines for teacher selection clear and reasonable; 21 percent did not know that such guidelines existed. Fifty-six percent of responding principals also reported problems with teacher selection. (See Table 7.)

Parental Involvement

All facilitators reported that Gates teachers held the normally required parent-teacher conferences. They encouraged teachers to make telephone calls and write letters to their students' homes. Two-thirds

TABLE 7

Principals' Difficulties in Implementing Teacher Selection Guidelines

	School level		
Area of difficulty	**Elementary (N=161)**	**Junior high (N=80)**	**Total (N=241)**
Obtaining applications to teach Gates classes	20%	33%	24%
Experience teaching reading	8	28	15
Experience teaching mathematics	7	31	15
Experience teaching low-achieving students	10	21	14
Attendance at staff development	11	31	18
Encouraging parent involvement	25	46	32

- **Junior high school principals reported far more difficulty with teacher selection and conformity to guidelines than elementary school principals.**
- **One-third of junior high school principals found it difficult to obtain applications from qualified teachers.**
- **Nearly half of junior high school principals and a quarter of elementary school principals found teachers reluctant to work at involving parents in the program.**

of facilitators reported that some schools provided additional activities for Gates parents including orientation meetings, workshops, morning and afternoon coffee-hours, and participation in class trips. Five districts held district-wide Gates meetings for parents. One district mandated principal-parent conferences. Nonetheless, facilitators and principals were dissatisfied, and thought that more should be done to involve parents in the future.

Data from the teacher survey also indicate some problems in implementing this aspect of the program. While time was provided for conferences, teachers who met with more than half of Gates parents were a minority. (See Table 8.) Teachers reported that the topics most frequently discussed in their conferences with parents were students' work and grades (for fourth graders) and attendance and tardiness (for seventh graders). Only 357 teachers (45 percent) reported that a Gates parent orientation meeting had been held at the outset of the program. Of these, only 50 teachers (six percent of all respondents) said that at least half of Gates parents had attended the meeting.

TABLE 8
Parent Attendance at Parent-Teacher Conferences

Grade	Number of teachers responding	% of parents attending at least one conference: No parents attended	1-50 percent	51-100 percent
Four	298	2%	49%	49%
Seven	316	4	80	16
Total	614	3%	65%	32%

- **Conferences were much more frequent with parents of fourth graders than with parents of seventh graders.**
- **About a third of the teachers reported conferences with more than half of Gates parents.**

Parents were asked about the extent of their contact with the schools in 1981-82. (See Table 9.) The majority (85 percent) reported at least one individual meeting with their children's Gates teachers. This rate of contact would be acceptable to facilitators, principals, and teachers, but was apparently not representative of parental involvement program-wide. It appears that parents who responded to the survey were also more likely to have had contact with the schools.

TABLE 9
Parents' Reports of Program Involvement

	% of parents attending at least one conference		
	Fourth (N=1,529)	Seventh (N=823)	Combined (N=2,352)
Met alone with Gates teacher			
Never	13%	21%	16%
Once	11	23	15
Twice	76	56	69
Attended Gates meeting for parents			
Never	46%	60%	51%
Once or more	54	40	49

- **More than two-thirds of parents reported that they had met individually with their children's Gates teachers more than once.**
- **Nearly half said they had attended group meetings about the Gates program.**
- **More parents of fourth graders than seventh graders reported program involvement.**

Notification to parents of the summer school for Gates holdover students, while far from universal, was apparently more widespread than notification of the appeals process. Nearly two-thirds of those who responded to the survey -- presumably the most active and concerned parents -- did not know that the decision to hold over their children could be appealed. This was a serious problem. (See Table 10.)

SUPPORT FROM CENTRAL OFFICES

All 32 district facilitators had contact at monthly meetings with the Assistant Superintendent for Promotional Policy (head of O.P.P.), his deputy, and the O.P.P. assistants. The facilitators also reported

TABLE 10

Notification of Parents About the Program

Last year, when were you notified that your child could go to summer school?

Grade	Total surveys returned	May, 1981	June, 1981	July, 1981	Didn't know	No response to question
Four	1,529	17%	39%	11%	19%	14%
Seven	823	16	48	11	16	9
Total	2,352	17%	42%	11%	18%	12%

Did you know you could appeal the decision to hold your child over this year (in 1981-82)?

Grade	Total surveys returned	Yes	No	No response to question
Four	1,529	31%	61%	8%
Seven	823	28	67	5
Total	2,352	30%	63%	7%

- **Two thirds of fourth-grade parents and three-quarters of seventh-grade parents said that they knew their children could go to summer school.**
- **About a third (31 percent) of fourth-grade parents, and even fewer (28 percent) seventh-grade parents, knew that they could appeal the decision to hold over their children.**

that, overall, the O.P.P. assistants visited 87 percent of the schools in which Gates classes were organized. All 32 district facilitators stated that this central monitoring was necessary, appropriate, and helpful. Half asked for more training for themselves and for more pupil services, including educational screening, guidance, and diagnosis of reading difficulties.

Fifty-eight percent of the Gates principals reported that the O.P.P. site visits included meetings focusing on promotional policy, class organization, teacher selection, staff development, Gates curricula and materials, or individual student needs. Most (63 percent) responding principals required no additional support from central offices. Those who wanted more support asked for direct communication between the school and central offices, more training and advice for their teachers, and additional guidance and diagnostic services for individual Gates pupils.

Sixty percent of the teacher respondents reported that O.P.P. site visits had included visits to their classrooms. Since the O.P.P. assistants functioned more as monitors than as resource people, it is not surprising that only about one-third of the visited teachers (38 percent) found the O.P.P. visits helpful to themselves.

SUPPORT FROM DISTRICT OFFICES

Principals' Meetings with District Personnel

The primary resource for Gates principals was the district facilitator: 92 percent of principals reported meeting with the facilitator to discuss Gates issues. Most reported discussions with other district-level staff, including the district superintendent, a deputy superintendent, or a curriculum specialist. These discussions addressed Gates policy, class organization, teacher selection and staff development, curricula and materials, parent contact, or individual pupil needs. Principals said that these discussions met their needs 90 percent of the time. Relatively few asked for additional help from the districts; those who did asked for more administrative help, more help for teachers, and more guidance and diagnostic services for individual pupils.

Facilitators' Site Visits

The great majority (87 percent) of Gates teachers reported that they had received classroom visits from facilitators; most (85 percent) of those visited found the facilitators helpful. (See Table 11.)

TABLE 11
Teachers' Reports of District Facilitator Visits

			Helpfulness of visits		
Grade	**Total teachers responding**	**% of responding teachers visited**	**Extremely helpful**	**Moderately helpful**	**Not helpful**
Four	391 [a]	92%	39%	50%	11%
Seven	389	81	32	48	20
Total	780	87%	36%	49%	15%

[a] Three fourth-grade teachers did not answer the question about the helpfulness of the visits.

- **More fourth- than seventh-grade teachers reported at least one visit by a district facilitator.**
- **Eighty-nine percent of fourth-grade teachers and 80 percent of seventh-grade teachers who received visits from district facilitators found them moderately or extremely helpful.**

Facilitators were generally dissatisfied with the amount of time they could devote to site visits: 75 percent stated that they did not have sufficient time to support instruction adequately. All facilitators said that they had visited classrooms as often as possible, but believed that Gates teachers and supervisors needed more individual support. Twelve said they needed clerical support from their districts to reduce paper work, so that they could spend more time visiting Gates classrooms. Facilitators reported training for Gates supervisors in 75 percent of the districts; almost half (47 percent) felt this training had been helpful. Three-quarters considered such training an ongoing priority since facilitators themselves were often unable to visit all schools, and (according to a third of the facilitators) principals were not as knowledgeable about or involved in the program as they needed to be.

Teacher Training

Given the teacher recruitment problems they reported, it is not surprising that principals and facilitators considered staff development for teachers extremely important. All but one principal reported special training for Gates teachers. Eighty-three percent of elementary school principals and 80 percent of junior high school principals considered this staff development helpful.

Facilitators were even more positive. The great majority (88 percent) reported that the staff development provided for teachers was extremely or moderately helpful. Facilitators mentioned enhanced morale, problem-solving in groups, reduced isolation, and better teaching as outcomes of this training. More than half indicated a need for even more interpretation and demonstration of curriculum.

Teachers were less enthusiastic. Teachers' responses were grouped into those who felt the training was extremely or moderately helpful and those who said it was slightly helpful, not helpful, not available, or gave no response. Positive responses (extremely or moderately helpful) are shown in Table 12. (Negative responses to training in parent involvement may reflect limited activities in this area rather than the quality of training.) Table 12 also indicates that teachers requested additional training in every area.

All 32 facilitators supported the need for ongoing teacher train-

TABLE 12
Teachers' Reactions to Gates Training

	Grade 4 (N=391)		Grade 7 (N=389)		Total (N=797)	
Training area	**% positive response**	**Need more training**	**% positive response**	**Need more training**	**% positive response**	**Need more training**
Program methods/techniques/lessons/materials	65%	31%	59%	28%	63%	30%
Pupil diagnosis/prescription/progress records	49	29	41	29	45	29
Classroom management	44	26	40	20	43	23
Supplementary activities	54	21	41	24	49	23
Parent involvement	24	25	13	26	19	26

NOTE: Seventeen respondents did not indicate grade level. These percentages indicate teachers' responses to two separate but related questions about Gates training.

- **Fourth-grade teachers were slightly but consistently more positive about the training they received than seventh-grade teachers.**
- **Both groups were most positive about training in exemplary-optional program methodology.**
- **Both groups were least positive about training related to parent involvement.**

ing. Facilitators whose districts implemented more than one reading or mathematics program felt that teachers needed additional training, and suggested borough-wide sessions on specific programs. Fourteen facilitators (44 percent) thought that staff development should focus more intensely on how to meet students' individual needs.

Support from School Supervisors

Teachers were asked to describe the support they had received from their school supervisors (either the principal or assistant principal). Responses of fourth-grade and seventh-grade teachers were remarkably similar, varying only by one or two percentage points. Eighty-one percent of all teacher respondents felt highly or moderately supported.

Needs of Teachers

Teachers were asked in which of six different areas they needed further assistance. (See Table 13.) As would be expected, teachers who had not been visited or supported by a district facilitator, O.P.P. assistant, or school supervisor were more likely to answer that they needed additional help. The discrepancies were largest between teachers who felt

TABLE 13
Teachers' Needs in Relation to Support Received from Supervisors

	% teachers needing additional help		
Area	All respondents (N=774)	Respondents indicating supervisor's support (N=630)	Respondents lacking supervisor's support (N=144)[a]
Discuss student needs	34%	29%	57%
Interpret or demonstrate curriculum	29	25	44
Monitor class size and student placement	27	22	48
Review parent-teacher contacts	26	23	43
Facilitate delivery of materials	20	17	34
Convey policy directives	17	14	33

[a] In addition to the 17 teachers who failed to specify their grade of instruction, nine fourth-grade and 11 seventh-grade teachers did not answer this question.

- **The highest percentage of teachers thought that more attention should be focused on students' needs: 57 percent of those who lacked supervisory support, and 29 percent of those who had support, indicated this need.**
- **Teachers expressed the least need for assistance in acquiring materials and receiving policy directives.**

supported or unsupported by their supervisors, and were consistent across each of six surveyed areas. They were especially marked among fourth-grade teachers; seventh-grade teachers who could consult with other Gates teachers in the same school apparently fared better in the absence of supportive supervision. Visits by district facilitators and O.P.P. assistants did not appear to have as strong an impact.

EXEMPLARY/OPTIONAL PROGRAMS

Community superintendents selected exemplary/optional reading and mathematics programs for use in their districts' Gates classes.* One-third of the facilitators indicated that only district-level staff contributed to the decision. Facilitators reported that principals were included in the decision process in about half the districts; six facilitators reported that principals and their staffs were allowed to select from among the exemplary programs identified centrally. About half of the principals confirmed that they had input into program selection, and an additional 17 percent reported that Gates teachers were also consulted. Eighteen percent of teacher respondents agreed that they participated in the selection of programs.

Facilitators' Reactions to Programs

Facilitators were asked to assess the effectiveness of the reading and mathematics programs implemented in their districts, and their preparedness to assist these programs. Those facilitating district-optional programs expressed the most confidence, saying almost without exception that the programs were effective, and that they felt well prepared to fulfill their responsibilities. Given the choice, they would implement the same programs in 1982-83. Facilitator's confidence related most clearly to the number of reading and mathematics programs implemented in the district. Those responsible for one exemplary reading and one exemplary mathematics program felt that the approaches were reasonably effective, and were quite secure in their ability to coordinate them. Facilitators in the ten districts which had implemented two or more reading programs and two or more mathematics programs were least likely to feel confident; they would reduce the number of programs implemented in their districts in 1982-83.

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*Appendix A contains descriptions of the instructional programs, and indicates the program(s) selected by each district.

The 18 facilitators in districts with bilingual Gates classes were not well informed about the bilingual language-arts curriculum. Only four facilitators felt they understood it. Thirteen of the 18 facilitators explained that teachers of bilingual Gates classes were also using the exemplary/optional reading program chosen for other Gates classes in their schools. Only ten of the 18 facilitators offered a judgment on the effectiveness of the bilingual curriculum: six termed this curriculum sufficiently or very effective, three thought it was somewhat effective, and two thought it not at all effective in preparing students to meet the promotional criteria.

Principals' Reactions to Programs

In order to gauge their satisfaction with the reading and mathematics programs used in their schools, principals were asked if they would use the same programs in their Gates classes in 1982-83. Overall, three-quarters of the responses to this question were positive. STAR, L.R.A., district-optional programs, and HILS received consistently high ratings, but only 58 percent of principals implementing ECRI would use it again. Grade level generally did not affect responses; however, elementary school principals implementing optional programs were more positive (77 percent) than junior high principals (67 percent).

Principals expressed equal satisfaction with various mathematics curricula. Seventy-two percent would use the same program again. As with reactions to reading programs, there were few differences between elementary and junior high principals who implemented an exemplary mathematics curriculum, but school level did make a difference among principals using district-optional mathematics programs. Although 84 percent of the elementary school principals would retain their district-optional program, only 50 percent of those at the junior high level would do so.

Principals' Input and Preferences

Those principals who said they had input into program selection were more likely to express interest in using the program again the following year. (See Table 14.)

As Table 15 indicates, a principal's input into the curriculum selection process was crucial to acceptance of ECRI. This pattern was characteristic only of ECRI-schools, and suggests that districts planning to use this program should solicit principals' input and prepare carefully for its implementation.

TABLE 14

Curriculum Preferences of Principals with or without Input into Selection

Curriculum preference	Principal's input into program selection A great deal (N=90)	Some (N=77)	None (N=59)	Total (N=226)
Would re-use reading program	86%	74%	54%	73%
Would re-use math program	76	75	61	72

Note. Fifteen principals did not indicate how much input they had into selection of the Gates curricula. Only 17 actually said they would prefer not to use the reading curriculum and 20 said this about the mathematics program. The others were undecided.

TABLE 15

Principals' Input into Selection of ECRI and Preference for Its Re-use

Preference for re-use	Level of Input A great deal (N=12)	Some (N=14)	None (N=11)	Total (N=37)[a]
Yes	83%	71%	18%	57%
No or undecided	17	29	82	43

[a] One ECRI principal did not indicate the level of input.

- **Only 18 percent of principals who had no input into the selection of ECRI wanted to use it again.**
- **Most (83 percent) of those that participated in the decision to adopt ECRI would do so again.**

TEACHERS' REACTIONS TO CURRICULA

At the end of the August, 1981 Gates pre-service training, teacher participants were surveyed regarding their readiness for assignments and their reactions to the exemplary programs. Several of the August, 1981 questions were repeated in the spring, 1982 teacher survey. Teachers' responses (combined for grades four and seven since there were few differences between the two) to questions about the reading curricula are displayed in Table 16.

Teachers' responses to questions about mathematics curricula are displayed in Table 17; here substantial differences between grades four and seven were observed and warrant discussion.

Similar data were collected in spring, 1982 from teachers of bilingual Gates classes but had not been collected at the summer, 1981 training. Results are discussed but cannot be compared to prior ratings.

Teachers' Rating of Reading Curricula

Reading teachers who completed the survey -- primarily those who attended training sessions -- reported increased confidence between summer, 1981 and spring, 1982. (See Table 16.) At both data collection points, ECRI and STAR teachers indicated the weakest understanding and least sense of preparedness of all groups of reading teachers; teachers of district-optional programs reported the greatest understanding and strongest sense of preparedness. At the same time, ECRI and STAR teachers, along with L.R.A. teachers, made the greatest gains in confidence. These self-reports underscore the difficulties inherent in implementing new approaches to curricula and the importance of experience and train-

TABLE 16
Increases in Positive Responses by Teachers to Questions about the Reading Curricula

Question		% positive responses to curriculum					
		ECRI	STAR	HILS	L.R.A.	Optional	Total
	August, 1981:	(N=147)	(N=233)	(N=215)	(N=13)	(N=216)	(N=824)
	Spring, 1982:	(N=98)	(N=203)	(N=178)	(N=31)	(N=167)	(N=677)
Understand the program							
August, 1981		32%	33%	59%	46%	62%	47%
Spring, 1982		65	89	91	93	90	86
Feel prepared to teach program							
August, 1981		20	37	56	54	64	46
Spring, 1982		60	82	89	83	89	82
Agree with program philosophy							
August, 1981		43	54	60	61	70	58
Spring, 1982		47	78	70	62	78	70
Agree with program methods							
August, 1981		39	54	58	54	69	56
Spring, 1982		45	71	68	62	76	67
Program will be (is) effective							
August, 1981		49	55	59	61	70	59
Spring, 1982		42	62	56	52	70	59

NOTE. A response was positive if the teacher checked either "sufficient" or "very much." The other possible responses were "to some extent" and "not at all." The percentages of positive responses were computed on the basis of the number of people who answered the question (but did not answer with "not applicable").

- **Teachers using all programs reported marked increases (25 percentage points or more) in their grasp of and readiness to teach the curriculum.**
- **Teachers using STAR and HILS reported increases of 24 and 10 percentage points, respectively, in agreement with program philosophy. Teachers using other programs indicated more modest increases in this area.**
- **In terms of agreement with program methods, teachers registered increases ranging from six percentage points (ECRI) to 17 points (STAR).**
- **Teachers' judgments about the effectiveness of these programs did not change substantially between the beginning and the end of the year; teachers of ECRI, HILS, and L.R.A. became slightly less positive.**

ing in developing expertise and confidence.

Teachers were also asked if, given the choice, they would use the same reading program again in 1982-83. Overall, 63 percent of the teachers replied affirmatively. STAR teachers were most positive: 74 percent would use this program again. Sixty-four percent of HILS teachers, 58 percent of teachers using district-optional programs, 55 percent of ECRI teachers, and 45 percent of L.R.A. teachers would use these programs again.

Little difference was found in the responses of ECRI, STAR, and HILS teachers when grouped by grade level. Substantial differences on all questions were found for L.R.A. teachers and teachers of district-optional programs, however. Seventh-grade teachers of L.R.A. and of optional programs were consistently far less positive than fourth-grade teachers; their rate of positive responses ranged from 10 to 30 percent below that of fourth-grade teachers. These two groups of seventh-grade teachers merit further attention.

Teachers' Rating of Mathematics Curriculum

Teachers of mathematics were also asked to rate their curricula; their responses in spring, 1982 were compared to those at the end of training in August, 1981. (See Table 17.) While mathematics teachers' confidence grew substantially during the year, the increase was less dramatic than that of reading teachers because they began the year with more confidence.

As with the reading programs, district-optional programs were rated higher than either of the two exemplary mathematics curricula, al-

TABLE 17

Teachers' Judgment of the Effectiveness of Mathematics Programs by Grade Level Taught

Program	Fourth grade		Seventh grade	
	N	% positive response	N	% positive response
D.P.A.	158	52%	51	29%
R.M.	91	80	55	43
Optional	80	81	28	64

NOTE. Thirty-five teachers did not answer the question or did not indicate grade level. A response was positive if the teacher checked either "sufficient" or "very much." The other possible responses were "to some extent" or "not at all."

- **Only 29 percent of seventh-grade D.P.A. teachers and 43 percent of seventh-grade R.M. teachers considered these curricula effective.**
- **Only half (52 percent) of fourth-grade D.P.A. teachers thought that the program was effective.**

though the differences between Real Math (R.M.) and the district-optional programs were generally slight. D.P.A. teachers were least likely to understand their program in spring, 1982, least likely to feel prepared to teach the program, and least likely to judge it effective. In terms of preparedness, only D.P.A. teachers varied substantially by grade level taught, with fewer seventh- (46 percent) than fourth-grade teachers (65 percent) feeling well prepared. Belief in the effectiveness of the D.P.A. program declined from 67 percent in August, 1981 to 47 percent in spring, 1982, resulting in an overall decrease in teachers' belief in the effectiveness of their mathematics programs from 66 to 61 percent.

Consistent and extreme differences by grade level were found, however, for teachers' confidence in the effectiveness of the mathematics programs they were using. Seventh-grade teachers were consistently less positive than fourth-grade teachers. The problems of these teachers, and of fourth-grade D.P.A. teachers, merit particular investigation.

Teachers' Rating of the Bilingual Curriculum

Bilingual teachers' ratings of their curricula were lower than those made by either reading or mathematics teachers: only half (49 percent) of the 43 Gates bilingual teachers who responded to the survey indicated they understood the curricula and only half (51 percent) felt prepared to teach it. Forty-two percent considered the curriculum effective in helping their students meet the CAT reading standard. Most of the Gates bilingual teachers, however, were supplementing the bilingual curricula with an exemplary or optional reading program geared to meeting this standard.

IMPACT OF PROGRAM ON PARTICIPANTS

Impact of Program on Students

While the primary goal of the Gates program has been to increase students' academic achievement, there are additional ways to assess its success. Teachers were asked to indicate how much growth they perceived in their students in four different areas: self-esteem; social relations; work habits and study skills; and academic skills. (See Table 18.) All teachers who answered the questions perceived student growth in three areas and the great majority perceived growth in the fourth as well.

In general, parent respondents thought that the Gates program had helped their children, although more so for fourth graders than seventh graders. (See Table 19).

TABLE 18

Teachers' Perceptions of Students' Growth

Student growth area	Percent of teachers Substantial growth	Moderate growth	Little or no growth	No response
Self-esteem				
Grade 4	61%	34%	5%	*
Grade 7	46	38	15	1%
Social relations				
Grade 4	45	43	*	12
Grade 7	39	43	*	18
Work habits, study skills				
Grade 4	49	46	*	4
Grade 7	32	52	*	16
Academic skills				
Grade 4	45	50	*	5
Grade 7	28	57	*	15

NOTE. The numbers in this table indicate the percentage of teachers estimating various levels of growth in their students. 391 fourth-grade and 389 seventh-grade teachers responded; * indicates less than one percent.

- **Fourth-grade teachers were more likely than seventh-grade teachers to report substantial growth in each of the four areas.**
- **The majority of fourth- and seventh-grade teachers reported growth in their students' self-esteem.**

Impact of Program on Facilitators

Twenty-five of the 32 facilitators said they would ask for this assignment again in 1982-83; five facilitators were undecided; only two would not ask for this assignment again. Even those facilitators who felt overburdened by their responsibilities agreed that this had been an opportunity for professional growth. Only one (who handled more than 50 classes on a half-time basis) spoke sorely of excessive pressure. The other facilitators spoke of increased knowledge of curricula, enhanced supervisory skills, and greater knowledge and appreciation of the total school system.

TABLE 19
Parents' Reactions to the Promotional Gates Program

Is the Promotional Gates Program helping your child?

Grade	Total surveys returned	Not at all	A little	Very much	No response
Four	1,529	8%	22%	64%	6%
Seven	823	9	33	54	4
Total	2,352	8%	26%	61%	5%

Does your child like to go to school more this year than last year?

Grade	Total surveys returned	Less	Same	More	No response
Four	1,529	5%	34%	59%	2%
Seven	823	14	37	47	2
Total	2,352	8%	35%	55%	2%

Does your child feel that he or she is learning more this year than last year?

Grade	Total surveys returned	Less	Same	More	No response
Four	1,529	3%	15%	80%	2%
Seven	823	10	20	68	2
Total	2,352	6%	17%	75%	2%

- **The majority (61 percent) of responding parents thought the program was helping their children ''very much''; only eight percent said it was ''not at all'' helpful.**
- **More than half (55 percent) of responding parents said their children liked to go to school more this year than last.**
- **Three-quarters of the parents said that their children felt they were learning more this year than last.**

Impact of Program on Teachers

Seventy-two percent of Gates teachers said they would choose a Gates assignment again in 1982-83, 16 percent were undecided, and 12 percent would not. Seventh-grade teachers were slightly less inclined to teach a Gates class again than were fourth-grade teachers. Eighty-seven percent of the teachers said that their experience in the program had had an impact on them professionally. Most comments were positive: teachers mentioned that they had become acquainted with new teaching methods, had learned to respond to students' differences and to address individual needs, and generally had become more creative and resourceful, better organized, and more conscientious in their work.

PARTICIPANTS' RECOMMENDATIONS

Continuation of the Program

All facilitators, 83 percent of principals, and 87 percent of teachers agreed that the Gates program should be continued. Junior high school principals and teachers were slightly less positive than elementary school principals and teachers. Of the relatively few participants who were not clearly positive, more were undecided than negative.

Of those participants who were positive about the program, more than half characterized it as an effective program that was meeting students' needs. Others stated that standards are necessary, that the school system is obliged to help students meet these standards, and that there is value in program continuity. Many of these respondents supported continuation of the program with modifications and improvements. Of those who were undecided or negative, most expressed concern for those Gates students who were not making sufficient progress and might not be promoted at the end of the school year.

Mid-year Promotion

Reactions to the mid-year promotion of Gates students were mixed. More than half of responding principals and teachers approved of mid-year promotion of eligible Gates students, but more than half of the district facilitators did not. Seventh-grade teachers and principals were more favorable to this policy than were their counterparts in elementary schools.

Those who approved of mid-year promotion felt that it was an incentive for students as well as a matter of equity. Those who disapproved said that mid-year promotion did not allow students enough time to consolidate gains before facing a more difficult curriculum in situations offering less support, and that it was discouraging to those other students who were not promoted.

Student Services

Facilitators, principals, and teachers offered a variety of suggestions for improvement of the Gates program, primarily concerning expansion of services to students. All three groups recommended an increase in guidance services, in educational and physical screening, and in clinical reading and mathematics services. All suggested career-oriented curricula for seventh-grade Gates students, connecting their learning more closely to life experiences.

SUMMARY

We have gathered information on numerous facets of program implementation from district facilitators, principals, teachers, and parents involved with Gates. Their responses reflect the diversity inevitable in a program which operates at so many sites, under such varying conditions. Despite this diversity, we can offer a number of summary statements.

Adherence to Guidelines

During the 1981-82 school year, the Gates program was put into operation at 543 schools in the five boroughs. The challenges of implementing a new program of this magnitude were met with a fair amount of success. Some 24 thousand eligible students were identified, 1,311 teachers and district-level staff were recruited, and Gates classes were organized. Appropriate curricula were introduced. Most participants reported adherence to program guidelines, but problems surfaced in several areas. Many principals reported difficulties in applying student eligibility criteria, particularly in relation to new admissions and LEP students. Class organization presented fewer problems, especially for elementary school principals. A shortage of highly expert reading and mathematics teachers among volunteers hampered teacher recruitment. Facilitators, principals, and teachers were dissatisfied with parental participation. Parents' questionnaire responses indicated that most knew that their children could attend summer school, but did not know that the decision to hold over their children could be appealed.

Program Support

All facilitators, and a majority of principals and teachers, reported contact with the Office of Promotional Policy. But as the guidelines anticipated, district facilitators were the primary resources for Gates principals and teachers. Most principals and teachers reported helpful visits from facilitators; the facilitators themselves, however, were often dissatisfied with the time they had available for site visits, and appeared to need more clerical support.

Facilitators and principals agreed that additional training for supervisors should be a priority, and that ongoing teacher training is a crucial aspect of the program. Many facilitators wanted more training for themselves as well. While facilitators and principals considered staff development helpful in the program's first year, teachers (especially at the seventh-grade level) were less enthusiastic, and indicated a need for continued training. At the same time, nearly two-thirds of surveyed teachers said that they felt supported by their supervisors. Teachers stressed their need for additional training in specific strategies for individualizing instruction.

Reactions to Exemplary Programs

Facilitators' reactions to exemplary programs corresponded to the number of reading and math programs adopted in their districts: those responsible for one reading and one math curriculum were most confident about the program's effectiveness and their ability to implement them; those overseeing four or more programs felt less secure.

Principals -- particularly those who had participated in curricula selection -- were largely positive about the exemplary programs. Those principals who did not have input into the adoption of ECRI by their districts were least positive. Between the beginning and end of the school year, teachers generally expressed increased confidence in the curricula and their ability to apply them. In both reading and math, teachers were most positive about district-optional programs. Seventh-grade teachers gave the curricula lower ratings than fourth-grade teachers. Reading teachers were least positive about ECRI. Ratings of bilingual curricula were low among all groups; teachers of bilingual gates classes tended to supplement the bilingual curricula with exemplary/optional reading programs used in their district or school.

Impact on Students

Teachers were asked about students' growth in self-esteem, social relations, work and study habits, and academic skills. The vast majority of teachers, particularly fourth-grade teachers, reported substantial growth in all areas. Most parents who returned questionnaires thought that the program had helped their children. Again, parents of fourth graders were more enthusiastic than parents of seventh graders.

Mid-Year Promotion

Teachers expressed mixed reaction to the policy of mid-year promotion; seventh-grade teachers regarded this policy more favorably. Those who approved mid-year promotion considered it a matter of equity, and stressed the importance of incentive; those who disapproved urged the reinforcement of skills with a full year of program participation, and expressed concern about discouraging those who were not promoted mid-year.

Overall Reactions of Staff

Most facilitators and teachers said that they would choose to repeat their Gates assignment the following year. All facilitators, and the vast majority of principals and teachers, agreed that the program should be continued, though many suggested improvements. Expansion of student services emerged as the program's most pressing need.

IV. STUDENT ACHIEVEMENT

HIGHLIGHTS OF FINDINGS

- 69.5 percent of Gates-eligible students with complete test records attained promotional criteria in either August, 1981, January, 1982, or April, 1982.
- Gates students were able to attain end-of-year promotional criteria in greater proportions than students in a comparison group.
- As a group, Gates students made significant progress in reading as measured on both the CAT and another test, the Degrees of Reading Power; their gains on the CAT were not substantially different from those of students in a comparison group.
- Students promoted in either August, 1981 or January, 1982 made higher gains in reading than full-year holdovers. Students promoted in April, 1982 also made significant gains.
- As a group, students who failed to attain promotional criteria and became double holdovers had pretest scores well below those of their Gates classmates, and posttest scores substantially below the promotional criteria.
- Fourth graders' attendance has remained stable or has slightly improved since they entered the program. The attendance of seventh-grade Gates students was problematic; the attendance rate for these students was lower in 1981-82 than in 1980-81.

EVALUATION QUESTIONS

Criteria Attainment

The promotional policy which underlies the Gates program set a concrete goal for participating students: promotion to the fifth or eighth grade at the earliest possible date by scoring at or above the criterion for their grade on a standardized reading test. Attainment data constitute the most critical information in this evaluation, for they answer the questions:

- -- what proportion of Gates students was successful in meeting the promotional standard?
- -- at what point in the school year were these students successful?
- -- how did their success compare with that of a comparison (non-Gates) group?

We have asked these questions about the entire Gates population -- some 24 thousand students in 543 schools. We also analyzed criteria attainment by sub-groups of the population with special characteristics or needs:

- -- limited English proficient (LEP) students: those whose native language is not English, and who scored below the twenty-first percentile on the English version of the Language Assessment Battery;
- -- resource room students: mainstreamed special education students who have been assigned to resource rooms for remedial work, and are subject to promotional policy;
- -- potential holdovers: those who were in the fourth or seventh grade for the first time (and technically are not Gates-eligible) but who were considered by school staff to be at risk of retention in 1982-83.

Student Achievement

The Promotional Gates Program focused on reading achievement: Gates students received instruction in both reading and mathematics, but reading scores alone determined whether a student would be held over and placed in a Gates class or promoted to the fifth or eighth grade. Our review of student achievement therefore stressed reading, but looked at performance in mathematics as well.

To assess student achievement, we analyzed the scores of Gates students on standardized tests.* Looking at the performance of the whole group of Gates-eligible students, we asked:

- -- what were their gains in reading achievement?
- -- how did these gains compare to those of a comparison (non-Gates) group?
- -- were gains in reading achievement confirmed when a representative sample was given a reading test other than that used for program selection?
- -- what were students' gains in mathematics achievement?

We also wanted to know about the reading achievement of different segments of the total Gates population. We examined the scores of the sub-groups listed above, and reported the achievement of the small number of holdovers who were not assigned to Gates classes. In addition, we analyzed the gains of the various promotional categories of Gates-eligible students:

- -- students promoted in August, 1981;
- -- students promoted in January, 1982;
- -- full-year holdovers promoted in June, 1982;
- -- double holdovers (those who did not meet the criteria on the April, 1982 CAT).

We examined reading scores from two more viewpoints. In order to assess gains of full-year Gates participants more closely, we looked at reading scores across the several reading programs. We also examined reading achievement by district.

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*See Appendix F: Testing Schedule.

Attendance

Attendance data were collected on Gates fourth and seventh graders. We have compared these attendance rates with those of their grade peers (non-Gates fourth and seventh graders in the same schools) and with their age peers (fifth and eighth graders). In addition, the Office of Educational Evaluation conducted a survey of selected schools to find out whether Gates students' attendance differed significantly between 1980-81 (the school year prior to program participation) and 1981-82.

DESCRIPTION OF THE DATA BASE

The Analytic Group

The data that support this evaluation include information on first-year Gates-eligible students. The Office of Educational Evaluation aggregated the test records of 24,239 students who initially scored below the promotional criteria in April, 1981 (or on a makeup test in August or September, 1981), and who were not exempted from the promotional policy; holdovers represent 21.6 percent of all fourth and seventh graders tested. This report evaluates the progress in 1981-82 of this original group of Gates holdovers.

The vast majority of these students were selected on the basis of the California Achievement Test (CAT); only 123 students of limited English proficiency (LEP students) were held over based on performance on the Criterion Referenced English Syntax Test (CREST).

The proportions of fourth and seventh graders, among those originally held over, were 44 and 56 percent respectively.

The promotional policy allowed Gates holdovers to exit the program in August, 1981 or January, 1982 if they met the promotional standard. (A small number of students who attained the criteria in August or January were nevertheless held over at the discretion of parents or school staff.) This report presents data on students in various promotional categories: those 4,672 who attained the criteria in August, 1981; those 1,722 who attained the criteria in January, 1982; those 12,209 students who remained eligible for the Gates program after the January, 1982 CAT administration. In this report, we refer to the last group as full-year holdovers.

Missing Data

Some data will inevitably be incomplete in the evaluation of any program -- particularly one of this magnitude. Some students with pretest scores will lack posttest scores for various reasons. Of the total sample of Gates-eligible students, 18,653 had both pre- and posttest scores available for analysis.

We can account for many of the 5,586 students lacking posttest scores. A total of 720 were absent or excused from the April, 1982 test. To locate the remaining 4,866 students, a search of the school system's Biofile was conducted. This process revealed that 1,051 students had been discharged from the school system between pre- and posttesting. An additional 319 had been assigned to self-contained special education classes; 652 were found in regular (neither Gates nor special education) classes.

The remaining 2,844 students were not found on the Biofile. We can only conclude that inaccuracies in student identification information on the pretest answer documents made it impossible to match their test records. These missing data represent 11.7 percent of our original target group.

The pretest scores of students with incomplete test records did not differ significantly from those of students with both pre- and posttest scores in both grades. The differences were not large enough to have altered the results of our analyses.

We analyzed criteria attainment data for 18,653 students.

Exclusion of Students from Analyses

Of the 18,653 Gates-eligible students with pre- and posttest scores, 2,480 were excluded from our analyses of reading achievement. (See Table 20.) Full-year holdovers who had not taken part in the Gates program for any reason (for example, those who had been transferred to self-contained special education classes) were not included, even though they had complete test records. Students who had taken makeup tests in September, 1981 were excluded because both the time and the conditions of test administration varied, and because we have received only their grade-equivalent scores, which should not be used for computation. Scores for students who took makeup posttests (after April, 1982) were submitted too late for consideration in our analyses.

A total of 16,173 students with complete test records were included in our analyses of reading achievement by the entire Gates population.

TABLE 20

Exclusion of Students from Analyses of CAT Scores

	Total	Grade 4	Grade 7
Students originally held over[a]	24,239	10,621	13,618
Students lacking posttest scores	5,586	2,187	3,399
Students with pre- and posttest scores	18,653	8,434	10,219
Students excluded from analyses:			
Special education	512	340	172
September pretest score	719	345	374
No indication of program participation	213	90	123
Late posttest	386	144	242
August or January promotions with no April, 1982 score	650	278	372
Total excluded	2,480	1,197	1,283
Total analyzed	16,173	7,237	8,936

[a] Students scoring below criteria in either April, August, or September, 1981, excluding students granted exemptions.

ATTAINMENT OF PROMOTIONAL CRITERIA: AN OVERVIEW

Attainment of Promotional Criteria on the CAT

Of the 18,653 Gates-eligible students with complete test records, 12,970 (69.5 percent) met the promotional criterion for their grade level on one of the three dates that the California Achievement Test (CAT) was administered: August, 1981, January, 1982, or April, 1982. A greater proportion of fourth graders (77.0 percent) met the criterion than seventh graders (63.4 percent). A total of 5,683 students (30.5 percent) were unable to attain the criteria and became double holdovers* at the end of the 1981-82 school year. Table 21 presents these broad findings; Figure 2 illustrates them.

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*We are using the term double holdovers to refer to students who, on the basis of April, 1982 CAT results, became eligible for continued participation in the Gates program at the end of the 1981-82 school year. The number of students actually held over for the second time was smaller, since some were subsequently granted exemptions, and others tested out of the program in August, 1982.

TABLE 21
Criteria Attainment on the CAT by Gates-Eligible Students through June, 1982

	Total	Grade 4	Grade 7
Students originally held over[a]	24,239	10,621	13,618
Students lacking posttest scores	5,586	2,187	3,399
Students with pre- and posttest scores	18,653	8,434	10,219
Students meeting criteria—August, 1981	4,672	2,124	2,548
Students meeting criteria—January, 1982	1,772	488	1,284
Students meeting criteria—April, 1982	6,526	3,884	2,642
Total meeting criteria—1981-82	12,970 (69.5%)	6,496 (77.0%)	6,474 (63.4%)
Double holdovers—June, 1982	5,683	1,938	3,745

[a] Students scoring below criteria in either April, August, or Septmeber, excluding students granted exemptions.

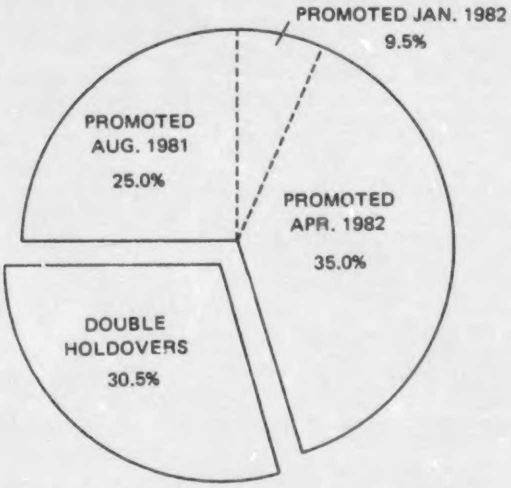
- **About 70 percent of program students met the promotional criteria; about 30 percent became double holdovers.**
- **A larger proportion of fourth-grade than seventh-grade eligible students met the promotional criterion at all testing points except January, 1982.**
- **5.8 percent of Gates fourth graders and 12.6 percent of Gates seventh graders (with complete test records) were promoted mid-year.**

Most of the 4,672 students who met the promotional criteria in August, 1981 had taken part in the six-week summer remedial program, but they did not participate in the full-year Gates program. The remaining

FIGURE 2

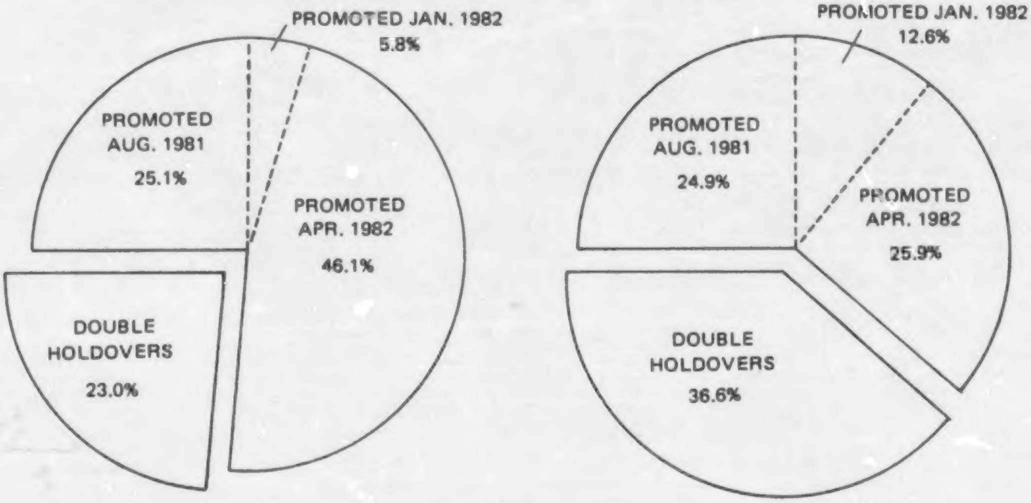
Attainment of Promotional Criteria.

TOTAL : 18,653 GATES HOLDOVERS*



TOTAL : 8,434 GATES-ELIGIBLE
FOURTH GRADERS

TOTAL : 10,219 GATES-ELIGIBLE
SEVENTH GRADERS



* ALL TOTALS INDICATE GATES-ELIGIBLE STUDENTS WITH PRE- AND POSTTEST SCORES ON THE CAT.

13,981 were Gates-eligible students during the school year.* Their performance, isolated from that of the total population, represents the impact of the full-year program. Of this population, 59.4 percent met the promotional criteria in either January or April, 1982.

Attainment of Promotional Criteria by a Comparison Group

To provide a frame of reference for interpreting the data on criteria attainment presented in the previous section, the Office of Educational Evaluation has analyzed the achievement of students in a comparison group. Despite technical problems inherent in this type of study, a comparison of their achievement with that of the Gates population allows a clearer picture of the educational significance of Gates students' achievement.**

The comparison group is historical: it consists of students who were fourth or seventh graders during the 1979-80 school year, and who scored below the present promotional criteria on the April, 1980 CAT. In other words, these are the students who would have been Gates holdovers had the program been initiated a year earlier.

The comparison group includes 6,914 students who were in the fourth grade in April, 1980, and 10,214 who were in the seventh grade at that time. Only students for whom we have both a 1980 CAT score below the promotional criteria and an April, 1981 score are included in the comparison group.

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*Of these students, 284 were not assigned to Gates classes, since the small number of eligible students in their schools did not permit organization of Gates classes.

**These complexities are discussed in Appendix E.

In the absence of promotional gates, 77 percent of the comparison group had been promoted to the fifth or eighth grade for the 1980-81 school year. The remaining 23 percent were retained in the fourth or seventh grade at the discretion of principals or teachers.

The comparison group differs from the group of Gates students in two ways which obviate a simple comparison of criterion attainment. First, comparison-group students were not tested in August or January of the 1979-80 school year. Secondly, the majority (77 percent) of the students in the comparison group were given CAT test levels geared to the fifth or eighth grade in April, 1981, while only 34 percent of Gates students were tested on those CAT levels in April, 1982.

To compare levels of criteria attainment by the two groups, we must distinguish between those students in both groups who were promoted before the end of the school year, and those who were retained for the full year. For students in both groups who ended the school year in the fifth or eighth grades, we have analyzed attainment of the promotional criteria set for those grades.

At both grade levels, Gates students were able to attain the promotional criterion in greater proportions than comparison-group students. (See Table 22.) In the fifth and eighth grades, differences may be noted between comparison-group students, who had been placed in those grades despite low CAT scores (below current promotional criteria), and Gates students who had attained promotional criteria and were promoted to the fifth or eighth grade in either August, 1981 or January, 1982:

TABLE 22
Criteria Attainment by Gates and Comparison-Group Students

Grade	Group	N	Test date	Promotional criteria	Met Promotional criterion		Did not meet promotional criterion	
					N	%	N	%
Four	Gates	5,118	April, 1982	3.7	3,706	72.4%	1,412	27.6%
	Comparison	1,502	April, 1981		1,050	69.9	452	30.1
Five	Gates	2,078	April, 1982	4.7	1,086	52.3	992	47.7
	Comparison	5,412	April, 1981		1,571	29.0	3,841	71.0
Seven	Gates	5,922	April, 1982	6.2	2,583	43.6	3,339	56.4
	Comparison	1,494	April, 1981		549	36.7	945	63.3
Eight	Gates	3,282	April, 1982	7.2	1,899	57.9	1,383	42.1
	Comparison	8,720	April, 1981		3,458	39.7	5,262	60.3
Total	Gates	16,400	April, 1982	--	9,274	56.5	7,126	43.5
	Comparison	17,128	April, 1981	--	6,628	38.7%	10,500	61.3%

NOTE. The analysis of Gates students includes those with April or August, 1981 pretest scores and April, 1982 posttest scores. It excludes those with September, 1981 pretests or those with makeups on the April, 1982 posttest.

- **At every grade level, a larger proportion of Gates students than comparison-group students attained the promotional criterion for their grade.**
- **The differences were most striking at the fifth- and eighth-grade levels; Gates-eligible students promoted in August or January were much more likely to meet fifth- and eighth-grade promotional criteria.**
- **Full-year Gates holdovers were somewhat more likely to meet the fourth- or seventh-grade promotional criteria than [illegible] comparison-group holdovers.**

this comparison sub-group had little success in meeting promotional criteria for its grade level after a year in the fifth or eighth grade; Gates-eligible students who were promoted in August, 1981 or January, 1982 were much more successful in the fifth and eighth grades.

Gates students who were retained for the full year were also more successful than students in the comparison group who had been retained for the full year, although the difference was slight in the fourth grade.

Overall, 56.5 percent of the Gates students were able to meet promotional criteria at the end of the school year, as opposed to 38.7 percent of students in the comparison group.

ATTAINMENT OF PROMOTIONAL CRITERIA BY SUB-GROUPS OF THE GATES POPULATION

LEP Students Tested on the CREST

In addition to those students held over on the basis of CAT scores, 123 were held over on the basis of CREST scores. Of these students, 78.8 percent met the promotional criterion for their grade on the CREST in January or April, 1982. (See Table 23.) Caution must be exercised in comparing this finding to the percentage of students meeting criteria on the CAT. Since cut-off points for these groups were established on tests which differ markedly in design and content, the outcomes are not comparable.

LEP Students Tested on the CAT

LEP students who had been in English-language schools for more than two, but fewer than four years were subject to promotional criteria on the CAT. Table 24 presents data on 817 students who fell into this category and had complete test records. Less than half of them met the promotional criteria in 1981-82; as a group, LEP students were less likely than their English-proficient peers to gain promotion.

Resource Room Students

Mainstreamed special education students assigned to resource rooms (as opposed to those in self-contained special education classes)

TABLE 23
Criteria Attainment by Gates-Eligible LEP Students on the April, 1982 CREST

Grade	CREST-eligible students	Met promotional criteria		Did not meet promotional criteria		Untested	
		N	%	N	%	N	%
Four	95	66	69.4%	24	25.3%	5	5.3%
Seven	23	19	82.6	2	8.7	2	8.7
Total	118	85	72.0%	26	22.0%	7	6.0%

Source: Office of Testing memorandum.

- **70 percent of CREST-eligible fourth graders met the promotional criterion.**
- **83 percent of CREST-eligible seventh graders met the promotional criterion.**

TABLE 24
Criteria Attainment by Gates-Eligible LEP Students on CAT in 1981-82

Grade	CAT-eligible LEP students	Met promotional criteria		Did not meet promotional criteria or untested [a]	
		N	%	N	%
Four	422	234	55.5%	188	44.5%
Seven	395	148	37.5	247	62.5
Total	817	382	46.8%	435	53.2%

[a] Three of these students were not tested in April, 1982.

- **Less than half of all LEP students selected on the basis of the CAT met the promotional criteria in 1981-82.**
- **Fourth graders in this group were more likely than seventh graders to attain the criterion for their grade.**
- **These LEP students were less likely to meet the criterion than English-proficient Gates students.**

were subject to the promotional policy. Those who became Gates-eligible on the basis of their CAT scores took part in the Gates program, but continued to receive resource room services as well. Table 25 indicates that these students were as likely as other Gates students to meet promotional criteria by the end of the school year; more than two-thirds of resource room students met the criteria.

Potential Holdover Students

In schools with under-enrolled Gates classes, potential holdover students were assigned to Gates classrooms. These students were in the fourth or seventh grade for the first time, but were thought by school staff to be at risk of being held over in April, 1982. These students are not numbered among the Gates-eligible population whose achievement is analyzed in this evaluation; however, since they received program services, we are reporting their success in attaining the promotional criteria at the end of the 1981-82 school year. (See Table 26.) We can do no more than report these results; since this group was not systematically selected and is not representative of any population citywide, comparison with other findings would not be meaningful.

READING ACHIEVEMENT: AN OVERVIEW

Overall Achievement on the CAT

The CAT results of 16,173 Gates-eligible students with complete test records were analyzed to determine gains in reading achievement. Table 27 presents findings for students with April, 1981 pretest scores; outcomes for students with only August, 1981 pretest scores are included

TABLE 25
Criteria Attainment by Gates-Eligible Resource Room Students on the CAT in 1981-82

Grade	Gates-eligible resource room students	Met promotional criteria		Did not meet promotional criteria or untested [a]	
		N	%	N	%
Four	880	651	74.0%	229	26.0%
Seven	498	284	57.0	214	43.0
Total	1,378	935	67.9%	443	32.1%

[a] Four of these students were not tested in April, 1982.

- **Gates students assigned to resource rooms were as likely as other Gates-eligible students to attain the criterion for their grade.**
- **Fourth graders in this group were more likely than seventh graders to attain the criterion for their grade.**

TABLE 26
Criteria Attainment by Potential Holdover Students on the April, 1982 CAT

Grade	Potential holdover	Met promotional criteria in April, 1982		Did not meet promotional criteria in April, 1982	
		N	%	N	%
Four	834	492	59.0%	342	41.0%
Seven	341	140	41.1	201	58.9
Total	1,175	632	53.8%	543	46.2%

- **Potential holdover students were less likely to meet the promotional criteria at either grade level than were Gates-eligible holdovers (see Table 21).**
- **A larger percentage of fourth-grade potential holdovers (59 percent) met the promotional criterion than did seventh-grade potential holdovers (41 percent).**

TABLE 27
Reading Achievement by Gates-Eligible Students

		April, 1981				April, 1982			Difference
Grade	N[a]	Observed mean scale score	(S.D.)	Adjusted mean scale score[b]	Grade equivalent	Scale score	(S.D.)	Grade equivalent	Scale score
Four	6,767	373.3	(22.0)	385.5	3.4	422.8	(32.7)	4.1	37.3
Seven	8,432	450.6	(29.8)	463.6	5.4	492.2	(40.1)	6.4	28.6

[a] This analysis considers students with matched April, 1981 and April, 1982 CAT scores.

[b] An adjustment was made to account for regression to the mean. See Appendix D.

in Appendix B. The gains of Gates students by district are presented in Tables B-5 and B-6.

For each grade, mean pretest and posttest performance is expressed in scale score units so that gains by students taking different levels of the CAT may be meaningfully compared. The scale score is the only metric which allows us to compare the pre- and posttest scores of a student who was tested in the fourth or seventh grade in 1981 and in the fifth or eighth grade in 1982. Grade equivalent scores are presented to indicate the standing of the group in relation to the promotional criteria. Pretest means have been adjusted to account for regression to the mean, a statistical artifact which results from using the same test for pupil selection and program evaluation.*

Analysis of overall achievement on the CAT indicates that Gates-eligible students did make progress in reading during the 1981-82 school year, and that these gains were statistically significant.

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*Only April, 1981 to April, 1982 scores can be adjusted for the regression effect. See Appendix D for regression adjustment procedure.

Gains in Reading Achievement by a Comparison Group

Reading achievement of Gates students is juxtaposed with that of our comparison group in Table 28. An analysis of covariance* is presented. This analysis allows us to compare the posttest level of the two groups after adjusting for the differences in the pretest levels of

TABLE 28
Reading Achievement by Gates and Comparison-Group Students

Grade	Group	Pretest date	Posttest date	N	Observed mean posttest scale score	(S.D.)	Adjusted mean posttest scale score[a]	Grade equivalent
Four/five:	Gates	April, 1981	April, 1982	6,924[b]	422.7	(33.0)	423.3	4.1
	Comparison	April, 1980	April, 1981	6,914	420.6	(33.1)	420.0	4.1
Seven/eight:	Gates	April, 1981	April, 1982	8,659[b]	491.8	(40.3)	491.5	6.4
	Comparison	April, 1980	April, 1981	10,214	494.6	(39.8)	494.2	6.5

[a] Within-grade analyses of covariance were performed to adjust posttest scores; these scores were adjusted to account for some of the differences in pretest levels.

[b] These N's are larger than those in Table 27 because the analysis was performed later, on an updated data file.

- **There were slight differences between the gains in reading achievement of comparison group and Gates students.**
- **Fourth-grade Gates students scored slightly, but significantly, higher than fourth graders in the comparison group.**
- **Seventh-grade Gates students scored slightly, but significantly, lower than seventh graders in the comparison group.**

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*An analysis of covariance is a statistical procedure which indicates whether differences between the gains made by two or more groups are real. This procedure adjusts for differences in the pretest level of the groups being compared.

the two groups. In the fourth grade, Gates students scored higher than students in the comparison group. The difference between the two groups was slight but significant. In the seventh grade, comparison-group students scored slightly higher than Gates students. Again, the difference was statistically significant.

Gates Students' Performance on the D.R.P.

In April, 1981, the Division of Curriculum and Instruction selected three districts (8, 16, and 24) to participate in a pilot study of the Degrees of Reading Power (D.R.P.) test. The test was administered on a pre/post basis (April, 1981 and April, 1982) to students in these districts -- including 845 Gates-eligible students who also took the CAT pretest and posttest in the same months. The D.R.P. is a new test for which no historical data for New York City are available. It is used to identify the level of reading materials which students can successfully absorb, and in this way differs from the CAT. Despite these differences, the coincidence of testing dates afforded us an opportunity to compare the performance of some Gates-eligible students on two reading tests, and in this way to amplify findings on the CAT.

Table 29 presents the gains of Gates-eligible students in Districts 8, 16, and 24 on the CAT; Table 30 displays gains by the same students as measured on the D.R.P.* Overall, a consideration of these find-

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*Results were not available in D.R.P. scale score units, the most appropriate metric for this analysis. To compensate for this we conducted analyses on both the D.R.P. "instructional" and "raw" score gains of these students. Raw score gains, elaborated in Appendix B, were consistent with the instructional score gains displayed in Table 30.

TABLE 29
CAT Scale Score Gains by Gates Students in Districts 8, 16, and 24

		April, 1981		April, 1982		Difference	
Grade	**N**	**Mean scale score**	**(S.D.)**	**Mean scale score**	**(S.D.)**	**Mean scale score**	**(t[a])**
Four	320	375.7	(20.0)	425.0	(32.4)	49.3	(25.4)
Seven	525	451.3	(29.3)	490.3	(38.6)	39.0	(23.1)

TABLE 30
D.R.P. Instructional Score Gains by Gates Students in Districts 8, 16, and 24

		April, 1981		April, 1982		Difference	
Grade	**N**	**Mean instructional score**	**(S.D.)**	**Mean instructional score**	**(S.D.)**	**Mean instructional score**	**(t[a])**
Four	320	28.2	(7.7)	38.1	(8.7)	9.9	(19.7)
Seven	525	44.5	(7.4)	51.2	(7.6)	6.7	(21.4)

NOTE: The analyses presented in Tables 29 and 30 include only students with April, 1981, 1982 CAT and D.R.P. scores. They do not include special education students or those with only an instructional or raw 1981 D.R.P. score. On Table 29, observed mean scale scores, which for sub-groups cannot be adjusted for the regression effect, overestimate actual gains. For both analyses, $p < .001$.

[a] This t value was computed from a correlated t-test of the significance of the pretest to posttest gain. The difference was statistically significant ($p < .001$).

- **CAT scores indicate that the D.R.P. sample is representative of the total population of Gates-eligible students; when pre- and posttest scores (observed mean scale scores) are compared at both grade levels, the difference between the D.R.P. sample and the total population is no more than 2.5 scale score units on any measure. (See Table 27.)**
- **The 845 Gates-eligible students who took both the CAT and the D.R.P. on a pre/posttest basis demonstrated gains in reading achievement on both tests.**
- **Outcomes on the D.R.P. are generally consistent with those on the CAT for this group.**

ings confirms our analysis of the CAT data: by the end of the 1981-82 school year, Gates-eligible students were able to read more sophisticated materials than they had been able to absorb a year earlier.

The instructional score on the D.R.P. indicates the "readability" index of reading materials which can be used for instruction; it estimates the type of material which a student will be able to understand sufficiently well to learn from it. The mean posttest score of Gates fourth graders indicated their ability by the end of the school year to learn from passages similar to the following, which has a "readability" index of 38:

> A bird's wings are well-shaped for flight. The wing is curved. It cuts the air. This helps lift the bird. The feathers are light. But they are strong. They help make birds the best fliers. A bird can move them in many directions. Birds move their wings forward and down. Then they move them up and back. This is how they fly. The tail feathers serve as a brake. They also aid in steering.*

The mean posttest score of the D.R.P. sample indicates that by year's end, Gates seventh graders could learn from materials similar to this passage, which has a "readability" index of 51:

> Most creatures take great care to protect their eggs. The walking stick does not. It just drops its eggs, scattering them loosely on the ground. Dozens and dozens drop at a time. As the eggs fall onto dry leaves, they sound like raindrops falling. Many of the eggs do not hatch. But enough do so that the walking sticks will not die out. They have existed on earth since before the era of the dinosaurs.

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*This and subsequent sample passages are from Degrees of Reading Power Readability Report (1980-81 Academic Year), "Table 3: The Readability of Prose Samples in DRP Units and Spache or Dale-Chall Grade Levels: A Conversion Table."

Comparing passages associated with posttest scores of different promotional groups is another way that we can suggest, in concrete terms, the differences between Gates students who did or did not meet promotional standards. For example, Gates seventh graders who took the D.R.P. and who met the criterion on the April, 1982 CAT registered an average instructional score associated with materials similar to the following passage. Rated at 55 for "readability," it confronts students with longer sentences and with more unfamiliar words, such as "migrants," "parched," "drought," and "aptly," as well as new usages of familiar words, such as "some."

> Between 1935 and 1939, some 350,000 migrants crossed the border from Arizona to California. These migrants came mainly from Oklahoma and Arkansas. For this reason they were called Okies and Arkies. They came from areas badly parched by drought. Lack of rain, combined with strong winds, had meant the loss of countless tons of topsoil. The area was aptly called the "Dust Bowl."

READING ACHIEVEMENT BY PROMOTIONAL CATEGORY

Table 31 displays full-year gains in reading achievement (April, 1981 to April, 1982) for Gates-eligible students who participated in the Gates program for different lengths of time: students promoted in August, 1981; students promoted in January, 1982; and full-year holdovers.

Students Promoted in August, 1981

The promotional policy allowed students who scored below the criterion on the April, 1981 CAT to take the test again four months later. Most of these students attended a six-week summer remedial program; the program was not mandatory, and students could be re-tested without attending. A total of 4,672 students -- 19.3 percent of all Gates-eligible students -- attained the promotional criteria on the August, 1981 CAT.

Table 31 displays full-year gains (April, 1981 to April, 1982) of those students who were promoted to the fifth and eighth grade in September, 1981 after attaining the promotional criteria on the August, 1981 CAT.* These students were placed in regular fifth- and eighth-grade classes for the 1981-82 school year. Scale score gains at both grade levels were statistically significant. This group of students had pretest scores which were slightly higher than those of students promoted in January, 1982 and notably higher than those of full-year holdovers. The gains of the August, 1981 promotees were substantially higher than those of full-year holdovers.

Students Promoted in January, 1982

Promotional criteria were set at higher levels on the January, 1982 test (4.5 grade equivalent for fourth graders and 7.1 for seventh graders) to ensure that students promoted mid-year would be able to perform successfully in the fifth and eighth grades, and would be likely to attain the criteria for promotion to the sixth and ninth grades in April, 1982.

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*A small number of students who met the promotional criteria in August, 1981 were, at the discretion of parents, principals, and teachers, held over and assigned to Gates classes for the 1981-82 school year. For the purpose of this analysis, those students are grouped with full-year holdovers.

This group of students participated in Gates classes for the first five months of the school year and were placed in regular fifth- and eighth-grade classes for the remaining five months. Scale score gains of those 1,208 students promoted mid-year were statistically significant, and -- as might be expected of a group that met more stringent standards -- surpassed those of students in other promotional categories.

Full-Year Holdovers

Table 31 also presents gains in reading achievement by full-year holdovers. This group includes those students who had not met promotional criteria in either August, 1981 or January, 1982 and those students who did meet the criteria but who were held over at the discretion of parents, teachers, and principals. Scale score gains of these students were statistically significant but were substantially lower than those of students in other promotional categories. It should be noted that the pretest level of this group was significantly lower than that of the other promotional groups.

Table 32 displays the full-year gains of those students who had not attained promotional criteria in either August, 1981 or January, 1982, and were therefore eligible for the Gates program for the entire school year. The gains of full-year holdovers who attained the criteria at the end of the school year are compared with those of students who did not, and who became double holdovers in June, 1982. Students who attained the promotional criteria in April, 1982 made gains that were both significant and comparable to those of students promoted earlier in the year. Students who became double holdovers made substantially

TABLE 31
Reading Achievement by Gates-Eligible Students, by Promotional Category

		April, 1982			April, 1982			Difference	
Grade	N	Mean scale score	(S.D.)	Grade equivalent	Mean scale score	(S.D.)	Grade equivalent	Scale score	(t)
Students promoted in August, 1981									
Five	1,811	381.2	(17.3)	3.3	442.9	(27.2)	4.7	61.7	(89.2)
Eight	2,199	462.9	(21.8)	5.4	517.8	(31.7)	7.4	54.9	(72.2)
Students promoted in January, 1982									
Four-Five	237	379.5	(19.0)	3.2	443.7	(28.0)	4.7	64.2	(29.8)
Seven-Eight	910	460.5	(22.4)	5.3	518.2	(32.2)	7.4	57.7	(47.6)
Full-year holdovers									
Four	4,725	369.9	(22.9)	2.9	414.0	(31.0)	4.0	44.1	(87.1)
Seven	5,325	443.9	(31.6)	4.7	477.2	(36.6)	5.9	33.3	(58.7)

NOTE. This analysis considers students with matched April, 1981 and April, 1982 CAT scores. Observed mean scale scores, which for sub-groups cannot be adjusted for the regression effect, overestimate actual gains. For each of these analyses, $p < .001$.

- **Fourth-grade Gates students promoted mid-year made the greatest gains in reading achievement of any promotional category; fourth-grade Gates-eligible students promoted in August made the second highest gains.**
- **Seventh-graders promoted mid-year made greater strides than other Gates-eligible seventh graders.**
- **Full-year holdovers, who started out with substantially lower pretest scores than the other promotional groups, made more modest gains. (This group encompassed about two-thirds of Gates-eligible students.)**

TABLE 32
Reading Achievement by April, 1982 Promotees and Double Holdovers

		April, 1981			April, 1982			Difference	
Grade	N	Mean scale score	(S.D.)	Grade equivalent	Mean scale score	(S.D.)	Grade equivalent	Scale score	(t)
				April, 1982 Promotees					
Four	3,147	371.7	(21.7)	3.0	428.1	(19.5)	4.3	56.4	(116.5)
Seven	2,138	451.2	(27.5)	4.9	508.4	(17.9)	7.0	57.2	(84.3)
				Double Holdovers					
Four	1,383	364.3	(25.0)	2.8	377.5	(29.7)	3.2	13.2	(15.5)
Seven	2,973	437.7	(33.3)	4.6	452.5	(26.9)	5.0	14.8	(21.2)

NOTE: Observed mean scale scores, which for sub-groups cannot be adjusted for the regression effect, overestimate actual gains. For these analyses, $p < .001$.

lower gains than other Gates students. However, the observed gains of double holdovers are particularly unreliable due to their very low pretest level. The pretest scores of these students in many cases represent a raw score of 17 to 20 correct responses on a multiple-choice test of 70 answers; since random guessing could produce the same results, these are chance scores, which may not reliably measure what the student actually knew. For this reason, we can offer no reliable estimate of the gains of double holdovers. The posttest scores of these students are not suspect, however, and indicate that they are still scoring significantly below the promotional criteria.

Summary: Reading Gains by Promotional Category

Students in all promotional categories made strides in reading during the school year. Breaking down gains by promotional category dramatizes the fact that the Gates population is stratified. The program was designed to release quickly those students who make rapid progress; it retains longest those who have demonstrated the most severe need. Students most in need of services, as indicated by low pretest scores, did indeed stay in the program the longest; however, these full-year holdovers also registered the smallest gains of any group that attained the promotional criteria. Figures 3 and 4* illustrate the fact that full-year holdovers promoted in April, 1982 had lower pretest scores than students who attained promotional criteria in August, 1981 or January, 1982. The same graphs show that those Gates-eligible students who were able to attain promotional criteria were also able to progress well beyond that minimal level of achievement. Double holdovers at both grade levels began the year with weaker reading skills than all other Gates-eligible students and their April, 1982 posttest scores did not even reach the April, 1981 pretest levels of the August, 1981 or January, 1982 promotional groups, and barely matched those of holdovers promoted at the end of the school year.

The variation in gains among these promotional groups suggests that one year of program participation could not fully compensate for the lagging achievement of double holdovers, who were far behind other holdovers when they entered Gates classrooms. We may also observe that Gates students promoted in August, 1981 or January, 1982 performed rea-

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*The groupings in Figures 3 and 4 differ slightly from those in Table 32. In Figures 3 and 4 students are grouped according to the time at which they attained promotional criteria as opposed to when they were promoted. This results in a shift of fewer than 100 students.

FIGURE 3

Progress in Reading by Gates-Eligible Fourth Graders, by Promotional Category.

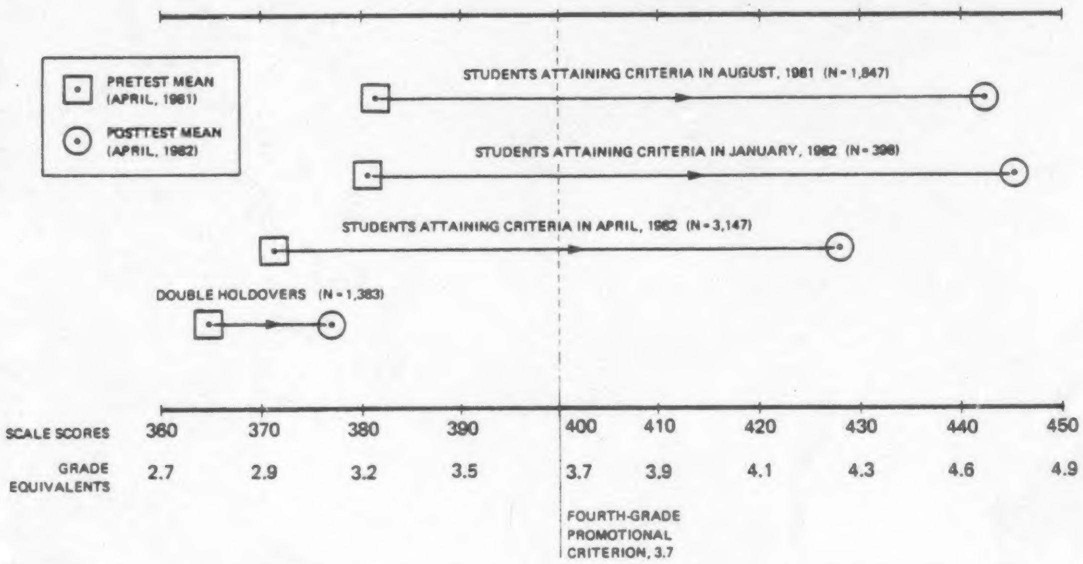
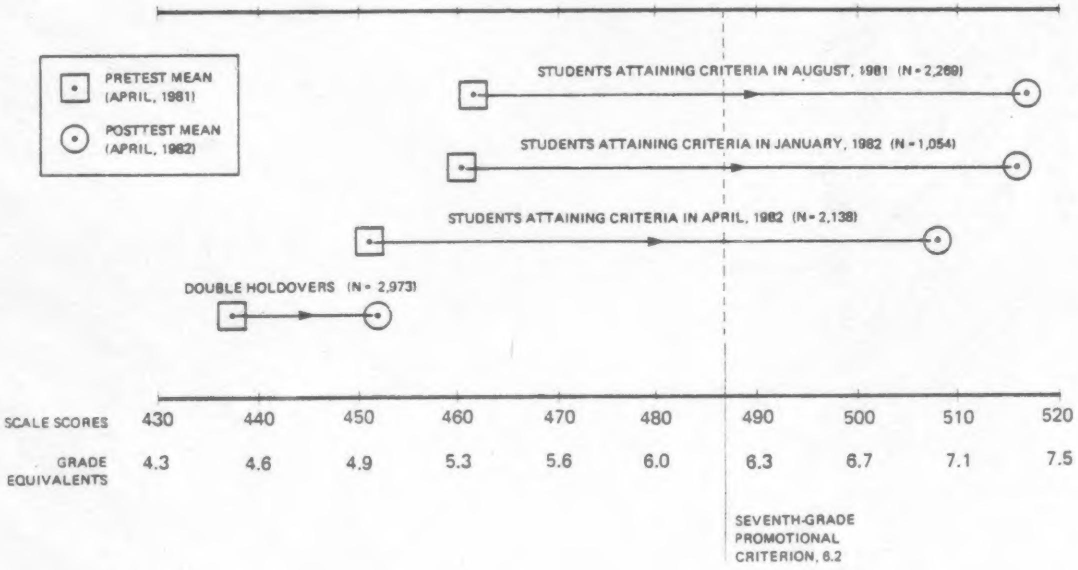


FIGURE 4

Progress in Reading by Gates-Eligible Seventh Graders, by Promotional Category.



sonably well on the higher test level of the CAT in April, 1982.

READING ACHIEVEMENT BY SUB-GROUPS OF THE GATES POPULATION

Limited English Proficient (LEP) Students

LEP students who were subject to promotional criteria on the CAT achieved gains that were slightly lower than those registered by all Gates students. Gains at both grade levels were statistically significant. (Table 33 presents gains at both grade levels, regardless of promotional category. See also Figure 5.)

Resource Room Students

Table 34 reports gains in reading achievement by all Gates-eligible resource room students (regardless of promotional category). Their gains were statistically significant, and were comparable to those achieved by the entire Gates population. (See Figure 6.)

Gates-Eligible Students Not in Gates Classes

At some sites, the numbers of fourth or seventh graders held over on the basis of the CAT were too small to warrant organization of Gates classes. For this reason, 284 Gates-eligible students -- less than one percent of the total population -- did not receive the full range of program services. Since this evaluation covers all Gates-eligible students, we are reporting their reading gains as measured by CAT performance. However, these students constitute a very narrow sample, and their districts or schools are not representative of conditions citywide. Furthermore, we have no systematic information on the type of instruction they received. For these reasons, this sample cannot be

TABLE 33
Reading Achievement by Gates-Eligible LEP Students

		April, 1981			April, 1982				
Grade	N	Mean scale score	(S.D.)	Grade equivalent	Mean scale score	(S.D.)	Grade equivalent	Scale score difference	(t)
Four	317	368.2	(23.0)	2.9	408.9	(37.1)	3.9	40.7	(18.9)
Seven	286	440.3	(31.8)	4.6	471.2	(43.6)	5.6	30.9	(11.8)

NOTE: This analysis considers students with matched April, 1981 and April, 1982 CAT scores. Observed mean scale scores, which for sub-groups cannot be adjusted for the regression effect, overestimate actual gains. For these analyses, $p < .001$.

- **Gates-eligible LEP students at both grade levels began the year with pretest scores below the average for the total Gates population, but comparable to those of full-year holdovers. (See Tables 27 and 31.)**
- **At both grade levels, LEP students registered smaller gains than the total Gates-eligible population, and smaller gains than all full-year holdovers.**

FIGURE 5

Progress in Reading on the CAT by Limited English Proficient (LEP) Participants vs. Total Gates Population.

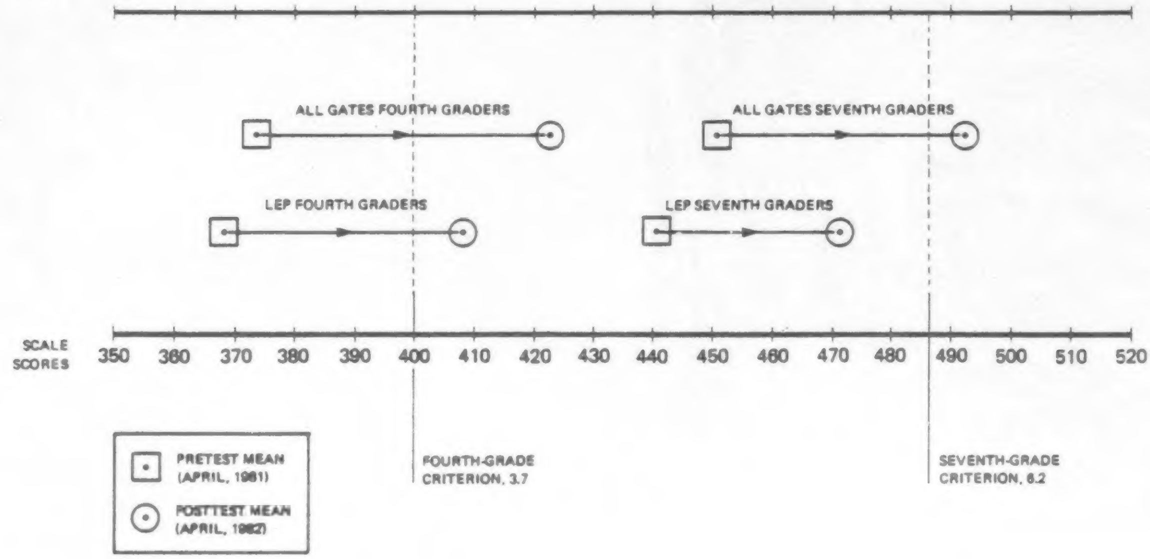


TABLE 34
Reading Achievement by Gates-Eligible Resource Room Students

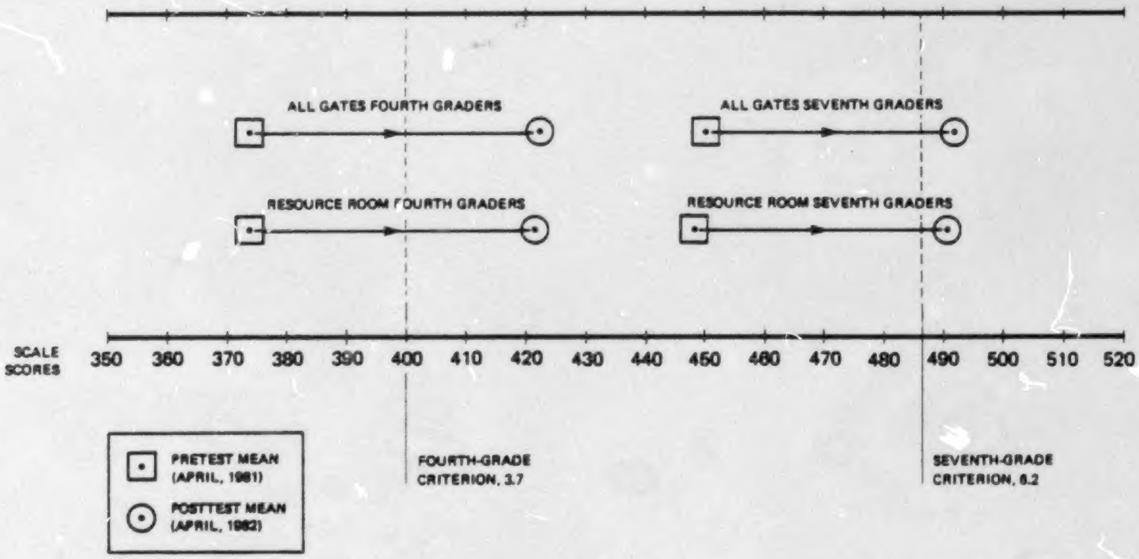
		April, 1981			April, 1982				
Grade	N	Mean scale score	(S.D.)	Grade equivalent	Mean scale score	(S.D.)	Grade equivalent	Scale score difference	(t)
Four	719	373.3	(21.8)	3.0	421.3	(33.7)	4.1	48.0	(35.6)
Seven	408	448.9	(28.9)	4.9	490.5	(39.3)	6.4	41.6	(20.5)

NOTE: This analysis considers students with matched April, 1981 and April, 1982 CAT scores. Observed mean scale scores, which for sub-groups cannot be adjusted for the regression effect, overestimate actual gains. For these analyses, $p < .001$.

- **Gates-eligible resource room students began the year with pretest scores similar to those of the total Gates-eligible population. (See Table 27.)**
- **Observed gains in reading achievement by resource room students were comparable to those registered by the total population of Gates-eligible students.**

FIGURE 6

Progress in Reading by Resource Room Participants vs. Total Gates Population.



thought of as a control group. These students made scale score gains of 48.5 (fourth grade) and 40.2 (seventh grade), slightly less than other Gates students.

READING ACHIEVEMENT ACROSS INSTRUCTIONAL PROGRAMS

Students in Gates classes received reading instruction based on one of the four recommended curricula -- HILS, STAR, ECRI, or L.R.A. -- or on an optional program selected by the district. (In one district, the optional program was implemented in conjunction with L.R.A.) Appendix B, Tables B-5 and B-6, present gains in reading achievement by students in each of the 32 community school districts.

Table 35 compares gains by students in the various programs. An analysis of covariance was performed to adjust for differences in pretest levels. Our data indicate that city-wide, differences among the programs were negligible. In specific districts or schools, some programs probably were more effective than others; but when the instructional approaches are compared in large scale, the differences diminish; variation in individual districts apparently had more to do with implementation issues than with the instructional programs themselves. No one program category emerges as most or least effective; our findings at this point in time do not support the adoption or elimination of any one instructional approach by schools or districts.

MATHEMATICS ACHIEVEMENT

During the first year of Gates program implementation, fourth- and seventh-grade students were not held to a mathematics criterion.

TABLE 35
Reading Achievement by Full-Year Holdovers Across Instructional Programs

Grade	Reading program	N [a]	Observed mean scale score	(S.D.)	Adjusted mean scale score [b]	Grade equivalent
Four	HILS	954	416.2	(30.2)	415.8	4.0
	STAR	829	412.7	(29.7)	412.7	4.0
	ECRI	703	411.2	(30.8)	411.5	3.9
	L.R.A.	122	411.1	(28.9)	411.6	3.9
	L.R.A.-Optional	197	409.4	(31.4)	418.3	4.0
	Optional	858	415.0	(29.7)	415.2	4.0
Seven [c]	HILS	1,175	473.8	(37.6)	473.6	5.7
	STAR	1,158	478.9	(38.1)	479.1	5.9
	ECRI	683	476.2	(35.0)	476.6	5.9
	L.R.A.-Optional	354	476.0	(33.3)	476.7	5.9
	Optional	931	480.9	(35.9)	480.3	6.0

[a] This analysis includes only those students whose April, 1982 test answer documents indicated their reading program.

[b] An analysis of covariance has been performed to adjust posttest scores; these adjusted scores account for some of the differences in pretest levels.

[c] Seventh-grade L.R.A. is omitted from analysis because the small number of students, only 16, would make the comparison unreliable.

- **Only minor differences emerged from this comparison; no single program category appeared to produce greater or lesser gains in reading achievement.**

TABLE 36
Mathematics Achievement by Gates and Non-Gates Students

			April, 1981		April, 1982		
Grade	Group	N	Mean N.C.E.	(S.D.)	Mean N.C.E.	(S.D.)	Observed mean N.C.E. difference [a]
Four	Gates	454	11.8	(3.5)	31.0	(12.1)	19.2
Seven	Gates	4,803	22.0	(7.5)	29.4	(12.5)	7.4
Eight	Non-Gates	6,074	25.5	(6.3)	25.8	(11.5)	0.3

NOTE. All students were tested on the New York City Mathematics Test. Fifth-grade students were posttested with a different test level than fourth graders. Since April, 1981 scale scores were unavailable for analysis, a cross-level comparison of these students was not possible.

[a] Observed gains, which for sub-groups cannot be adjusted for the regression effect, overestimate actual gains.

However, Gates students did receive remediation in mathematics as well as reading during the 1981-82 school year. Table 36 presents observed gains (for Gates students who in April, 1981 scored below the prospective April, 1982 math criteria) on the New York City Mathematics Test, a locally adapted version of the Stanford Diagnostic Mathematics Test.* Achievement is expressed in terms of normal curve equivalent (N.C.E.) scores** since these were the only scores available for analysis. Students held over for the full year in the fourth grade made significant gains of 19.2 N.C.E.'s in mathematics achievement. Seventh-grade students who participated in the Gates program made gains of 7.4 N.C.E.'s. The gains of both fourth- and seventh-grade Gates students reflect an upward movement in relation to other fourth and seventh graders. We were also able to compare gains in mathematics achievement of seventh-grade students to those of eighth-grade students who had been below the math criterion on the April, 1981 test but passed the CAT criterion.***

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*Observed gains, which for sub-groups cannot be adjusted for the regression effect, overestimate actual gains.

**Normal curve equivalent (N.C.E.) scores are equal-interval, normalized scores derived from the percentile ranks of the population on whom the test was normed. They express where a score is in relation to the distribution of scores in the norming sample. For example, an N.C.E. of 50 corresponds to the 50th percentile of fourth- or seventh-grade students' performance on their level of a test and reflects on-grade performance. An N.C.E. score below this means that a student's standing is below the average of the norming group, while a gain in N.C.E. scores reflects a change in a student's status relative to that group.

***Seventh- and eighth-grade students take the same level of the New York City Mathematics Test, enabling us to make this comparison. Fourth graders take a different level of the test than do fifth graders, so a comparison of their scores is not possible.

The eighth-grade students made N.C.E. gains of 0.3 which indicates that their position in relation to the eighth-grade population was similar to what it was in relation to seventh graders when they were in that grade.

ATTENDANCE

To further assess Gates students' performance and to measure the program's impact, we examined attendance data compiled by the Office of Student Information Services. To provide points of reference, Gates students' average attendance rates are compared (see Table 37) with the rates of non-Gates students in grades four and seven. Because attendance rates are typically related to both age and grade level, attendance by Gates students is also compared with that of their age peers in the fifth and eighth grades.

The Gates program encompasses the lowest achieving students of their age groups -- those who historically have the lowest attendance rates. Our findings indicate that the Gates program has not altered the attendance pattern of these students as a whole.

In order to gauge the program's impact, we wanted to compare Gates students' attendance with their records of the previous year. A survey of selected schools, conducted in June, 1982, furnished data for this comparison.* Table 38 presents attendance data on the sample of 3,351 students for whom attendance rates for both years were available;

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*Data were received from 89 elementary and 53 junior high schools in the five boroughs. Appendix C contains further information on the sample.

TABLE 37

Attendance in Gates Classes Compared to Non-Gates Classes, September, 1981 - April, 1982

	Percentage daily attendance
Fourth grade	
Gates group	87%
Comparison groups	
Non-Gates fourth graders	91
Fifth graders	91
Seventh grade	
Gates group	75%
Comparison groups	
Non-Gates seventh graders	87
Eighth graders	86

- **At both grade levels, attendance by Gates students was somewhat lower than than that of their non-Gates grade or age peers.**
- **Gates fourth graders had a higher average attendance rate (87 percent) than Gates seventh graders (75 percent).**

TABLE 38

Attendance Survey Results: Attendance by Gates Participants in 1980-81 and 1981-82

Grade	N	1980-81 Mean percent attendance	1980-81 (S.D.)	1981-82 Mean percent attendance	1981-82 (S.D.)
Four	1,319	89.3%	(11.0)	90.0%	(10.5)
Seven	2,032	81.4	(17.5)	76.2	(22.9)

NOTE: Attendance is expressed as the percentage of days a student is present in school, based on the number of days the student is on register.

this number represents approximately 18 percent of all full-year holdovers.

Analysis of these data suggests that fourth graders' attendance has remained stable or has slightly improved since they entered the Gates program. Older Gates students present a different picture: attendance by seventh graders in our sample declined by five percentage points from 1980-81 to 1981-82. Clearly, attendance by Gates seventh graders is a problem which needs to be addressed.

We looked at attendance figures from a third viewpoint. Because answer documents for students tested on the CAT in April, 1982 also provided attendance data, it was theoretically possible to correlate students' reading achievement with attendance. Major technical problems obviated the use of our data for this purpose, however. Correlation studies, which attempt to establish a relationship between two variables, assume a normal distribution of values for both. Program selection criteria meant that Gates students had uniformly low scores on the CAT; this led to results on the correlation study which were not meaningful.* However, Appendix C, Table C-1, presents data which suggest that high attendance was associated with high performance in the Gates program. Students with poor attendance, rates lower than 75 percent, made reading gains two months below those of high attending students.

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*Correlation procedures and results are presented in Appendix C.

V. SUMMARY OF FOUR CASE STUDIES

PURPOSE

Data presented in this report reflect the experience of children and teachers who work together in more than a thousand New York City classrooms. To assess the impact of this large program, we have had to step back from the daily life of Gates participants, looking at the whole program as if through the reverse end of binoculars. But as Gates enters its second year, it is important to ask how promotional policy, centrally conceived and administered, translates into concrete classroom concerns.

The Office of Educational Evaluation has taken a close look at Gates at work in four schools. We traced patterns in some areas, and found variation in others; however, we can hardly assume that what we observed at these sites typifies the program as it functions throughout the five boroughs. Our purpose is, rather, to accompany hard data with concrete descriptions of Gates in action. Our observations may suggest areas which deserve more systematic review, or issues which might be profitably addressed by those who run the program. But we cannot draw firm conclusions or grand generalizations from so limited a sample.

Three questions motivated the selection of the sites. How do Gates youngsters fare in a self-contained seventh-grade class, as compared with seventh graders in a departmentalized program? How does the Gates program function in a bilingual setting? And what happens when supplementary guidance services are made available to Gates children?

We expected to find variation based on these distinctions. It was soon apparent, however, that other variables might be more crucial: the climate of the school; teachers' attitudes toward participation in the program and its staff development activities; the vision and priorities of administrators at the site; district-level support.

The pages that follow summarize material in four case studies to be issued at a later date by the Office of Educational Evaluation. The following usages will refer to the four sites:

Bilingual-4 = Bilingual Gates class, fourth grade
Optional-4 = District-optional program, fourth grade
Self-contained-7 = Self-contained class, seventh grade
Departmentalized-7 = Departmentalized program, seventh grade

CONTEXT

Two of the four sites were located in Brooklyn; the others were in Manhattan and Queens. The neighborhoods differ markedly, but black American and Hispanic residents dominate the attendance areas of all four sites.

A modern, well-equipped school, Bilingual-4 is situated in a once fashionable neighborhood now blighted by deteriorating economic and social conditions. A school official described the area as an ethnic pocket -- a black neighborhood in a largely Hispanic district. Signs of the area's former affluence remain, renovation efforts are visible, and community resources, including a mental health center, stand near the school. But sub-standard housing, poverty and unemployment, and crime persist. "Our children walk through a lot," the official commented, referring to drug traffic and an active street culture around the school.

Optional-4 is located a few blocks from the city line. The neighborhood is almost suburban, with private homes (some converted to multi-family dwellings) lining shaded streets. Over the last two decades, this neighborhood has changed from an exclusively white community to one of ethnic diversity. Many black families have bought or rented homes here; concentrations of Hispanic, Haitian, and some Greek immigrants also live in the area.

Self-contained-7, a fastidiously maintained building, stands among many decrepit, deserted buildings. Empty lots near the school leave an impression of broken glass amid heaps of tires and charred mattresses. A large plant operates nearby, as do some small factories and automobile body shops, but the overall feeling is one of devastation. Two-thirds of the school's population is Hispanic. Many students live some distance from the school; few apartment houses remain functional in the immediate vicinity.

Departmentalized-7 is located in what has traditionally been a blue collar area. The school's surroundings are being rapidly upgraded: a house facing the school recently sold for 200,000 dollars. But the attendance area encompasses economically diverse sectors of the borough: from one of the city's wealthiest neighborhoods to low-income housing projects. While relatively few black and Hispanic families live in the school's immediate vicinity, they are heavily represented in the attendance area and in the school.

ORGANIZATION

District Involvement

Optional-4 enjoyed particularly strong support on the district level; the district's interest and initiative took the form, in part, of commitment to supplementary guidance services for Gates participants, and selection by the district of an alternative, optional approach to Gates curriculum. The individual appointed as Gates district facilitator, who also directs the district's diagnostic reading program, personally supervised Gates classes, visiting Optional-4 four times during the year. She also assisted in acquiring resources, and conducted monthly staff development activities.

District-level involvement was less pronounced at the other sites. The district facilitators conveyed policy, assisted in the acquisition of materials, and demonstrated curricula, but relied on the school for classroom supervision. The district which includes Departmentalized-7 integrated Gates into its established efforts at remediation in language arts.

O.P.P. Involvement

Office of Promotional Policy (O.P.P.) assistants, through district facilitators, apprised Gates staff of developments and decisions coming from the school system's central administration. In some cases, teachers received their advice on use of materials, recordkeeping procedures, placement, and parental involvement. But all agreed that monitoring by O.P.P. was minimal. Teachers generally thought that discussions with the O.P.P. assistants were helpful; some complained that O.P.P. required excessive paperwork.

Gates Within the School

Gates students at two sites appeared to be somewhat integrated into the life of the school. The fourth graders in the self-contained Gates class at Optional-4 had recess and lunch with third and fourth graders, and were active in schoolwide extra-curricular activities. They seemed to experience little or no stigma from assignment to a Gates classroom. The principal at Self-contained-7 said that he wanted to avoid creating a "Gates ghetto," and had therefore scattered the self-contained Gates classes in the building, rather than clustering them together in one wing. Students at this site mixed with non-Gates peers in elective shop classes, athletic programs, and other activities.

Students at Bilingual-4 and Departmentalized-7 appeared to be more isolated. Whereas classes at the same grade level at Bilingual-4 were generally grouped together in separate corridors, the bilingual Gates fourth graders were assigned to a room set off both from other fourth graders and from other Gates students. While they saw other children in the playground or at lunch, they appeared to have relatively little contact with other students. They did, however, participate in enrichment activities with the monolingual Gates students. At Departmentalized-7, Gates students were assigned to elective courses (band, orchestra, graphic arts, etc.), English as a second language, or the resource room, with non-Gates students. But the intensive Gates schedule made it difficult for students to take full part in schoolwide activities. For example, in a school in which musical groups have an important place, Gates students generally rehearsed for band, orchestra, or jazz band separately from other students until just before a concert.

Administrative Support

Administrators at three sites appeared solidly to support the Gates program. At Bilingual-4, an assistant principal personally reviewed work by Gates children, and recognized them individually for improved performance. At this site, the teacher derived the greatest assistance from the bilingual education coordinator, who was familiar with Gates students and the curriculum. At Optional-4, the Gates class was assigned to one of the school's more experienced and successful teachers; she was given the largest, most suitable classroom in the building, and received swift response to any and all requests.

At Departmentalized-7, the introduction of Gates classes did not constitute a dramatic shift in policy or practice. The administration had already instituted its own promotional policy, requiring a student to score at the 6.8 grade level on the CAT before proceeding to the eighth-grade; it had already developed remedial programs in reading and math. The seven Gates classes, grouped on the basis of CAT scores, fit into the school's overall structure of homogeneously grouped classes, and used existing laboratory and other materials.

At Self-contained-7, Gates was described as one of many programs implemented by the administration, and not necessarily a priority. The principal was characterized by Gates teachers as generally encouraging but distant. The individual who provided supervision at the site lacked knowledge of the program, and learned along with the classroom teachers.

The practice of grouping Gates seventh graders into homogeneously grouped, self-contained classes conformed with the administration's overall policy. Only eighth-graders in this school, serving grades six through eight, have completely departmentalized programs.

Teachers at all sites were reticent about the impact of Gates on the school as a whole. At Bilingual-4, fifth-grade teachers commented that the program barely affected their classes. High mobility in the neighborhood resulted in a constant flow of new children into their classes; their students' range of ability was therefore as broad as ever. At Optional-4, where Gates students received considerable attention from their teacher and the Gates guidance counselor, a fifth-grade teacher worried about how the children would adjust to a larger class and fewer resources when they got to the fifth grade. Teachers at several sites mentioned that students in both Gates and mainstream classes have become more serious, and sometimes more anxious, about test-taking. They said that some teachers at various grade levels have been concentrating more on specific reading skills needed to score well on the CAT.

Guidance Services

Students at three of the four sites received limited, if any, guidance services. The guidance counselor at Bilingual-4 stated that Gates students were not a special priority in her work; students received services according to a set of criteria uniformly applied to all. She recalled meeting with two Gates children during the year. The intense need for guidance services was recognized at both intermediate schools, but the resources were not available. The guidance counselor at Self-contained-7 said that paperwork, particularly in relation to high school articulation, leaves little time for individual or group counseling. Gates teachers at that site spoke of daily frustration: they have neither the training nor the time to deal with the emotional turmoil experienced by all of their adolescent students, and the severe problems suffered by many.

At the fourth site, Optional-4, the district funded a guidance component attached to the Gates program. District-wide services rest on the assumption that Gates students are "quiet failures" -- those who have not acted out in the classroom and therefore have not gotten the attention needed for a sense of personal adequacy. The district assigned one guidance counselor to its eleven Gates classes. She visited each class every other week; at Optional-4, she used a small room near the Gates class to meet with each student privately at least once. She preferred individual to group counseling, and took each child's total environment into account in her work. She also worked with the Gates teacher during her preparation period to review each child's progress and problems.

School-Based Support Teams

At three sites, Gates staff reported contact with the school-based support team (S.B.S.T.); at the fourth site, no assistance from the S.B.S.T. was mentioned. At Optional-4, the district Gates guidance counselor made several referrals to the team, which had already been notified about half of the Gates students. Their evaluation led in one case to assignment to a special education program, and to the school's resource room in several others. At Self-contained-7, three of 15 students referred for evaluation were actually assessed. At Departmentalized-7, many participants had been on the waiting list for S.B.S.T. screening before assignment to Gates. Of 77 referrals made to S.B.S.T. during the school year (from other than special education classes), about half were Gates students. Several were assigned to the school's resource room for one or two periods each day; here a teacher worked with no more than five students at a time.

Parental Participation

Teachers at three sites reported little contact with parents. The teacher at Bilingual-4 tried to involve parents in classroom concerns, but was only successful when a decision, such as placement in a special education program, was imminent. At Self-contained-7, some members of the Parents' Association initially responded negatively to the Gates program, and expressed particular concern about the age of holdovers. They were reported to be more comfortable with the program by the year's end. Teachers at this site mentioned that personal and family problems probably kept many parents from involving themselves in their children's schooling.

At Optional-4, parents were clearly more involved than at the other sites. This level of participation may have resulted from the guidance component at the site, and the efforts of the classroom teacher. It may also reflect economic circumstance: parents in this attendance area appeared to have more employment opportunities and greater financial stability than at other sites. The Gates teacher here met at least once with a parent of each student; more than a third of the parents came for individual conferences more than once. Most Gates children had parents at the fall orientation meeting. In addition, the Gates guidance counselor met with a group of ten parents.

PARTICIPANTS

Identification of Participants

Criteria for selecting participants at all sites conformed with O.P.P. guidelines. Fourth graders had scored below the 3.7 grade level on the CAT at the beginning of the school year. The range of scores at Bilingual-4 was 1.9 to 3.4; the range at Optional-4 was somewhat more narrow, from 2.4 to 3.5. Seventh graders had scored below 6.2. The administration at Departmentalized-7 had established its own promotional policy, with a score of 6.8 on the CAT required for entry into the eighth grade. Students who scored between 6.2 and 6.8 were assigned to a transitional class.

Student Characteristics

Most of the students in classes observed by the evaluation team were members of ethnic minorities (predominantly black American or Hispanic) reflecting the populations of the schools selected for case studies. The 14 students in the bilingual Gates class at Bilingual-4 were Hispanic, either Dominican or Puerto Rican, and came from homes in which Spanish is spoken. At Optional-4, four of the 17 Gates students spoke other than English at home. At Self-contained-7, where two-thirds of the 84 Gates students were Hispanic, a bilingual Gates class was disbanded early in the year when the teacher retired. Students were distributed among the other self-contained Gates classrooms. Some Spanish-dominant students at Departmentalized-7 were observed to have difficulty understanding instructions; one student grasped material only when instructions were translated.

Half of the bilingual Gates students in Bilingual-4 were born and raised in the U.S. Most used primarily English, and occasionally Spanish, to converse with each other or the teacher. It appeared that several of the children in the bilingual Gates class were English-dominant, while at other schools, some students in monolingual Gates classes were Spanish-dominant.

At the end of the school year, fourth-grade students at the two elementary schools ranged in age from 10 to 13 years; seventh graders at the other sites ranged from age 13 to 16. Many had been held over at least once before. Of the 17 fourth graders at Optional-4, four had previously been held over. Judging by their ages, half of the 84 seventh-grade Gates students at Self-contained-7 had been retained once before; a quarter had been held over twice before. Many Gates students at Departmentalized-7 had been retained in the seventh-grade before, when they failed to meet the school's internal promotional standard.

Mobility

The Gates class at Bilingual-4 diminished during the school year, as two students moved away; of the 14 who remained, test scores were available for all but one. At Optional-4, the class increased in size, with nine students added in the first month and one more in the second. Two students left during the year, and one was assigned to a special education program. Reliable information about student mobility among seventh graders was not obtained.

Students' Behavior and Attitudes

Teachers and support staff reported some restlessness and feelings of inadequacy among Gates participants. In some cases, particularly in the fourth-grade classes, a strong sense of social bonding, of pulling together, helped to undercut negative feelings as the year progressed.

The teacher at Bilingual-4 ascribed emotional, disciplinary, or learning problems to more than half of her Gates children. The teacher reported that academic performance was sometimes impaired by poor concentration and impatience in working out problems. At the same time, strong ties that developed among the children affected their work. Each student spoke of several friends in the class, and was hard pressed to choose among several to name a "best" friend. The children appeared to value the teacher's opinion highly. Boys seemed more assertive than girls, who tended to be unprofitably passive; the teacher said that these children have a strong sense of sex-role behavior, and that she tries to promote this identification.

At Optional-4, special attention to Gates students apparently acted as an antidote to possible embarrassment at being held over. Students seemed to share a sense that the Gates classroom is an exciting place to be, and were pleased to have enrichment outings organized just for them. There was a sense of pulling together, and little overt competition in the classroom.

Seventh graders at Self-contained-7 were reported to have more than their share of severe problems. Most were defensive, frightened, or embarrassed much of the time; others seemed to be immature, and were resistant to authority. Teachers described the emotional turmoil typical among these youngsters; more severe problems were common as well.

Staff members at Departmentalized-7 mentioned fewer severe problems among their students but stressed that many Gates participants seem to have negative feelings about themselves and their school life. While many are relatively attentive, some behave with hostility and aggression toward teachers.

Students, teachers, and support staff were asked about the impact of Gates participation on students. Informants at three sites offered positive responses. At Bilingual-4, the teacher spoke of the strong social context for learning which the small homogeneous Gates class has provided. Students and teachers at Optional-4 thought that supplementary guidance services, individualized attention, and special privileges had enhanced students' sense of personal adequacy. At Self-contained-7, the faculty reported that they had witnessed real academic gains in some Gates participants.

In contrast, staff members and students at Departmentalized-7 expressed concern that some seventh-graders were discouraged at being held over. Even some of those who are able to perform well have become more nervous about tests, and worry about not making it to high school.

Members of the S.B.S.T., including the psychologist, spoke of diminished self-esteem stemming from Gates testing and retention. The social worker and guidance counselor expressed concern about over-aged students, who feel out of place in the social setting. A student was reported to have said, "If I don't pass it this time, that's it. I'll drop out of school." The guidance counselor was so concerned about this prospect that she said she will now recommend special education placement for some students, in the hope that they will get into a high school program that provides vocational skills, rather than spend a third year in the seventh grade and ultimately drop out.

CLASSROOM OBSERVATION

Teachers

Teachers at the four sites had substantial experience in areas appropriate to their Gates assignments. A native speaker of Spanish, the teacher at Bilingual-4 had four years of experience in bilingual education. The teacher at Optional-4 had worked for ten years in primary, intermediate, and special education. The Gates teachers at the intermediate schools were experienced in teaching reading and mathematics, and had worked with remedial curricula. Self-contained-7 was the only site where teachers volunteered for the assignment.

The two fourth-grade teachers were most satisfied with the program. Both appreciated the opportunity for small-group and individual work. The Optional-4 teacher stressed the invaluable support she had received from the district and the school. Both said they would also like to be assigned to Gates again.

The four Gates teachers at Self-contained-7 described their role as promoting self-esteem first, and achievement second; they framed some of their goals in terms of behavior modification. More than one expressed frustration at the paucity of support services available to students. They also were distressed by parents' lack of involvement, and spoke of the local community school board as generally uninformed about Gates. Six language arts and four mathematics teachers implemented the departmentalized program at Departmentalized-7. Teachers at this site focused more on academic achievement than on affecting behavior. Seventh-grade teachers at both sites commented that the Gates program should be introduced earlier in students' academic experience, and that the seventh grade is too late for this kind of intervention.

Fourth-grade teachers at both sites reacted positively to staff development activities. The teacher at Bilingual-4 took part in eight Gates workshops; the Optional-4 teacher found the monthly training sessions offered by the district facilitator to be invaluable. She said that additional training in parental involvement and methodology would be helpful. Only one of the four Gates teachers at Self-contained-7 attended preservice training. This teacher disliked both the training and the program itself, preferring whole-group to individualized instruction. The other three teachers attended training sessions in the district during the year.

Climate

At all sites, work generally proceeded in an orderly, purposeful way. At Bilingual-4, the teacher made her presence felt, and the children knew that she was aware of everything going on in the room. The style of discipline seemed inconsistent, but students received frequent assessment and feedback; often they were recognized for special achievement. Transitions presented the most persistent problems in this classroom: it occasionally took from ten to thirty minutes for the class to settle into a new activity.

At Optional-4, work proceeded at a rapid pace, with a minimum of transition time. Children were praised for good work; insufficient effort was met with statements like, "You can do much better, young lady...." There appeared to be little overt competition in the room.

The climate at Departmentalized-7 was generally friendly and supportive. Despite occasional hostile outbursts or aggressive behavior by students, teachers were in control of their classrooms.

The four self-contained classrooms at Self-contained-7 differed in tone and atmosphere, according to the philosophy and style of the teacher. These differences will be further detailed below.

Classroom Organization

Classroom organization varied markedly at the different sites, and with different activities. At Bilingual-4, much of the work appeared to be teacher-centered, though students also initiated interactions at times. The teacher worked with clusters of about five students for reading; these groups were assembled on the basis of ability. Other activities, such as science lessons, engaged the whole class at once, and were less effective. In general, the teacher moved around the room often, calling for the attention of any who seemed to be distracted.

At Optional-4, the day was structured into eight periods, with each day's agenda posted for the children to see. The horseshoe arrangement of the desks, with the teacher's chair in the center, lent itself to whole-group work, such as spelling exercises. But children also did independent work on art projects, or occupied themselves in one of the room's reading or listening corners. Grouping was flexible, depending on the situation.

At Self-contained-7, the organization of self-contained classrooms hinged on the style and philosophy of the individual teacher. One teacher offered whole-group instruction, which was dominated by the teacher. Another directed students to work on individual writing projects, and walked about the classroom offering help to students, one at a time. Two teachers gave individual or small-group instruction based on the High Intensity Learning (HILS) curriculum. In general, students at this site were observed to be relatively passive; some did initiate contact with teachers, however, either to get help or to seek recognition.

Students at Departmentalized-7 were quite involved in their classwork, volunteering answers to teachers' questions. Except in the labs, teachers worked with the whole group at once, and the interactions were teacher-centered. However, these groups were small -- usually no more than eight students.

Curriculum

Each site had selected a specific curricular approach to Gates instruction. At each, teachers adapted the exemplary program to suit students' needs, teachers' strengths, and available materials. At each, the curriculum corresponded with O.P.P. guidelines in terms of subject matter and duration of instruction.

The evaluator who visited Bilingual-4 noted that the teacher worked solely with the literal meaning of reading passages when she used the bilingual language-arts curriculum. She introduced analysis, inference, and evaluation only when following the STAR curriculum, which stresses these skills. A lesson based on STAR was observed: the teacher worked with small groups, and frequently reiterated the objectives of tasks in which students were engaged. These tasks were adapted to the children's cultural experience: the curriculum specified that after reading about summer camp, children were to write a letter from camp; instead, after reading about camp, children were asked to write a letter from a visit to their native countries. The teacher said that she was very familiar with both the STAR and bilingual language-arts curricula. She expressed reservations about the bilingual curriculum, which was not specifically directed to helping students meet the promotional criterion for their grade level.

Optional-4 was located in a district which decided against the recommended exemplary reading programs, and opted instead to use Science Research Associates' (S.R.A.) diagnostic materials. This is a strategy based on the analysis of reading objectives in the most widely used elementary reading programs. Teachers' guides, workbooks, and duplication masters contained activities correlating with these objectives. The Ginn Management Program, stressing mastery learning procedures, was used for math instruction. O.P.P. accepted these programs, which were at least as highly structured as the recommended exemplary programs.

At Self-contained-7, Gates instruction was based on HILS-II, a model which specifies that students will spend time on individually prescribed tasks, with continuous assessment and re-direction to ensure and guide progress. However, HILS-II was rigorously applied in only one of the four classrooms. One teacher rejected the individualized instruction of the HILS approach altogether, substituting a teacher-dominated direct instruction approach. In two classrooms, implementation of HILS-II was hampered by a lack of appropriate materials. It had been assumed that the schools would supply individualized materials suitable for amplifying HILS-II; these were not available in the school. In general, materials were limited to those provided by O.P.P.'s central office until late fall. Those available were not on appropriate levels. In all but one classroom, there was an absence of clear direction. In general, teachers appeared to be getting results, but objectives were difficult to define, and the curricula followed in three classrooms were not HILS. In all classrooms, the district-optional mathematics curriculum was being followed.

The Gates program blended into the curricular approach already in effect at Departmentalized-7. This approach combined the HILS program with Educational Development Laboratories materials and S.R.A. diagnostic materials. The language arts teachers adapted Gates curricula to include more reading aloud and more role-playing by students. They also introduced supplementary activities allowing active participation, and more work related to students' daily lives. Audio-visual equipment for self-paced programmed learning had an important place in the language arts program. Newspapers were included in students' reading materials. In mathematics, the D.P.A. method was applied. Gates funds were used to buy equipment for math activities, including pocket calculators for individual use. Students attended one math laboratory per week.

STUDENT ACHIEVEMENT

A total of 236 students with complete test records were enrolled in Gates classes at the four case study sites. This number represents approximately one percent of all Gates-eligible students -- far too limited a sample to allow general statements about city-wide achievement.

At both seventh-grade sites, less than a third of Gates students met the promotional criterion during the school year; outcomes at the two schools were similar. The fourth-grade sites, on the other hand, had widely divergent results. Half of the 14 students at Bilingual-4 met the promotional standard; all but two of the 14 students at Optional-4 attained the criterion.

We cannot hazard conclusions about how or why these results came about. Characteristics of the schools and of the students differed markedly, as this summary has demonstrated. Furthermore, students started out at different pretest levels, affecting posttest findings.

However, we may note that these findings correspond to an overall impression gained by the evaluation team: that several facets of program implementation proved more problematic in the junior high schools than in the elementary schools.

OVERALL IMPRESSIONS

Observations detailed in four case studies leave clear impressions of the 1981-82 Gates program as it functioned in four schools. The following points suggest directions for future evaluations, but do not necessarily reflect the program's operation citywide.

The Chancellor's Guidelines for Implementation were in effect, with few exceptions. At all sites, participant identification, class size, instructional treatment, and administrative support conformed with these guidelines. Parental involvement was an exception: most teachers reported some initiative but limited success in this area.

District-level commitment to the program emerged as an important variable at these sites; guidance services, parental participation, and provision of supplemental materials, were related to this support. Consistent encouragement from principals and well informed supervision were also important factors.

Exemplary programs selected by the districts were followed or adapted at three of the four sites. Staff were generally satisfied with the curricula. The degree to which reading and math programs were followed depended on the leadership of the school's administration, the teacher's style of instruction, and the availability of materials. Classroom organization and teaching styles varied markedly, but students at all sites were paying attention to instruction, and evaluators observed that learning-type behavior was occurring. Non-Gates teachers interviewed by evaluators (including fifth- and eighth-grade teachers) did not feel that the program had appreciably affected their classes. The evaluation team gained the impression that the Gates program was adapted to the school as much or more than the schools adapted to the Gates program.

The program functioned more effectively in the elementary than the intermediate schools. While fourth-grade teachers were generally positive about the program, its impact on their students, and the support they received, seventh-grade teachers were less enthusiastic. Most felt that identification and treatment of Gates students should take place earlier. While some said they had benefited from the assignment, others were frustrated at the lack of support services, and thought that being held over had discouraged their students.

The case studies point toward a number of areas which need further attention: limited guidance services and delays in assessment by school-based support teams; partial isolation of Gates students, especially in the intermediate schools where scheduling problems keep some Gates participants from schoolwide activities; and increased test anxiety and worries about future prospects among some seventh-grade Gates students.

The program's strengths, as suggested by the studies, include: strong social bonding -- a sense of pulling together -- among Gates students; enhanced self-esteem stemming from individual attention and special activities, especially among fourth graders; possibilities for small-group and one-to-one instruction; and multi-level support available to Gates teachers. In all the classrooms observed by the evaluation team, teachers were offering remedial instruction, and students appeared to be learning.

VI. CONCLUSIONS

MAJOR CONCLUSIONS

Since 1980, the school system has made substantial progress in articulating a policy which establishes performance standards for its students and requires its staff to introduce instructional approaches which help students meet those standards. In 1981-82, this policy moved from paper into the city's classrooms: a large-scale, complex program, which maintains curricular and promotional standards, while allowing for local input, has been implemented across the system.

The policy established promotional Gates at grades four and seven. Results of this evaluation indicate that the policy was more effective and better received at grade four than at grade seven.

The guidelines for program implementation directed that each student be assisted in "developing skills through a well planned intensive instructional program not limited by the constraints of time." To carry out this commitment, students were offered the opportunity to advance out of the program at three points during the year. The policy of retesting students in August, 1981 and January, 1982 was equitable. Students promoted at all three testing points made significant gains in achievement.

Data elaborated in this report indicate that the 70 percent of Gates-eligible students who met the promotional criterion for their grade during the school year were, in terms of basic skills, better prepared to handle work at the next grade level than they would have been in the absence of the Gates program.

For the 30 percent of Gates students who became double holdovers, actually only five percent of all 1981 fourth and seventh graders, one year was not sufficient to close the pre-existing gap between them and classmates who gained promotion. This was surely disappointing for the children themselves, their parents, and for the Gates staff who worked with them. However, the very low pretest scores of this group made it difficult to measure accurately their actual gains in reading. While they did not attain the same level of skill proficiency as their peers, they may well have made progress in reading which test data do not reflect. In addition, the promotional policy has focused the attention of the system on the needs of this group. The Gates Extension program has been developed for these students. Identification of the specific difficulties which hamper the educational growth of this group and determination of ameliorating treatment should be a high priority in 1982-83. Particular attention should be given to the causes and improvement of seventh graders' poor attendance patterns.

Finally, the promotional policy has required an unprecedented degree of coordination between people who staff the school system's central offices and people in the field. They have begun to work together more closely to consider effective instructional approaches, to introduce more specialized staff development, and to strengthen the basic skills of the city's lowest achieving students. This concerted effort, and especially the sharpened focus on low achievers' specific needs, promises to have a long-term salutory effect on the school system as a whole.

ORGANIZATION OF THE PROGRAM

The implementation of the Gates program required a higher degree of interaction between the central offices of the school system and the community school districts than had typically occurred in the past. Central offices exhibited vigorous leadership while respecting the integrity and capacity of the community school districts. The division of responsibility between central and district offices was appropriate. There are indications, however, that districts varied considerably in their support of the Gates program in their schools, that is, in the provision of materials and guidance services. In addition, the division of responsibility for supervision between district offices and schools was somewhat problematic. The data indicate that all districts should clearly define the locus of responsibility for knowledgeable day-to-day supervision if all Gates teachers are to receive adequate supervisory support.

ADHERENCE TO GUIDELINES

Overall, adherence to program guidelines characterized program implementation in 1981-82. The challenges of program organization were met with relative speed and reasonable success for the first year of operation. Two areas of compliance presented problems: fewer highly expert teachers volunteered or were assigned to Gates classes than had been hoped; and parent involvement was not as extensive as had been intended. Parental involvement may be particularly important in improving students' attendance and attitudes.

School and district priorities and procedures also had more impact on the Gates program within the schools than the program had on schools, teachers, and school populations. This was most apparent in the intermediate and junior high schools, where traditional schedules and assignments often took precedence over those recommended for Gates classes. Nonetheless, an increased focus throughout the school on developing basic skills was reported by participants.

STAFFING

Program guidelines set high qualifications for Gates teachers. In many cases, there was a gulf between actual staff characteristics and the guidelines' standards for experience in reading and mathematics for low-achieving students. Teacher training was therefore extremely important. The willingness of most Gates teachers to attend training sessions, and their requests for additional training, testify to their interest in sharpening skills and to the quality of the training they received.

As would be expected in a new, large-scale program, it took time for teachers to develop confidence in their ability to carry out their assignments effectively. We expect that the experience gained by these teachers in the program's first year should have positive effects on subsequent program outcomes.

Appendix A

MATERIALS RELATING TO INSTRUCTIONAL PROGRAMS

MATERIALS RELATING TO INSTRUCTIONAL PROGRAMS

EXEMPLARY READING PROGRAMS

All of the exemplary reading programs have been used successfully in New York City public schools, and as Title I remedial programs. In addition, ECRI, HILS-II, and L.R.A. have been validated by the United States Department of Education.

Each program is based on a major, current learning theory. Each specifies pupil behaviors for development and supportive teacher behaviors. Verbal and behavioral pupil response is critical, as are teacher expertise and enthusiasm.

Exemplary Center for Reading Instruction

This total language arts curriculum uses a multi-sensory approach, eliciting specific verbal responses through precise directions, corrections, and praise (prompts) to maximize attention, retention, accuracy, and comprehension. In word recognition lessons, pupils hear and see words (or word parts) and immediately say, spell, and write them. In comprehension lessons, teachers orally model tasks which students imitate and practice. As students internalize response modes, teachers phase out prompts. Building on systematic past learning reviews, pupils learn to apply strategies to new situations. Individual mastery tests assess pupil performance.

Teachers are trained to four proficiency levels: initial, introductory, intermediate, and proficient. Proficiency is assessed through a combination of curriculum complexity and teaching efficiency (speed).

High Intensity Learning System

This individualized, diagnostic-prescriptive approach to reading instruction assumes that learning results from time spent on individually appropriate activities. Teachers are instructional managers who keep pupils focused on these activities.

The HILS-II management system provides sequences of instructional objectives and related materials drawn from a wide range of published reading programs. Teachers identify individual pupil needs through diagnostic tests, ensure that pupils understand prescribed objectives, provide personal support, observe pupil progress through individual mastery tests, and move them through the system. Pupils record their own progress.

Teaching preparation focuses on learning management system details, reviewing instructional materials, and becoming efficient in classroom management practices.

Learning to Read Through the Arts

This program uses both a diagnostic-prescriptive and an experiential language arts workshop approach to reading instruction. Pupils alternate between concrete (non-verbal) and abstract (verbal) experiences. In arts workshops, pupils listen to instruction, develop concepts and vocabulary, engage in activities, verbalize about experiences, read, and record observations about different activities. During classroom reading instruction, teachers present directed reading-skill lessons designed to meet needs identified in individiual diagnostic tests. Field trips to museums, resource centers, libraries, and cultural institutions are integral to the curriculum.

Classroom and artist-teachers work in teams, sharing lesson plans and observing each others' lessons to coordinate instruction. Reading skills lessons are based on arts workshops. The curriculum is developed through classroom experiences; teacher training is individualized and conducted on-site.

Structured Teaching in the Area of Reading

This curriculum uses a psycholinguistic approach to reading instruction, guiding pupils to use language cues efficiently for understanding. Growth in reading ability is considered a holistic process rather than the acquisition of isolated discrete skills. Teachers are trained to distinguish between miscues made by proficient readers which retain the meaning of a passage, and miscues made by inefficient readers which do not make sense.

STAR stresses direct teaching of semantic and syntactic strategies for making sense of written materials. Teachers receive extensive examples of strategy lessons as well as examples of listening comprehension lessons, language experience lessons for non-readers, and teacher-directed comprehension lessons. Although selected published materials are particularly recommended for classroom use, teachers base directed comprehension lessons on a wide range of materials.

OPTIONAL READING PROGRAMS

Nine districts implemented alternative reading curricula in Gates classes; all provide on-going pupil assessment. One program is an adaptation of STAR; another is an adaptation of L.R.A. Two combine basal reader lessons with individual skills development in a lab setting. One provides basal reader lessons in conjunction with daily instruction on test-taking skills. Four are primarily diagnostic-prescriptive programs.

LANGUAGE ARTS CURRICULUM FOR LIMITED ENGLISH PROFICIENT STUDENTS

Grade Advancement Through Enrichment Skills (GATES), developed by the Office of Bilingual Education, draws on bilingual pupils' strengths in their first language to develop skills in English. GATES teachers use the Language Assessment Management System to identify individual and class needs, and guide planning for instruction. The curriculum emphasizes development of vocabulary and language structures, comprehension, and language skills' integration. While relying heavily on teacher-directed activities, the approach also uses other organizational forms to meet the varied needs of bilingual pupils.

EXEMPLARY MATHEMATICS PROGRAMS

Each of the two exemplary mathematics curricula, Diagnostic-Prescriptive Arithmetic (D.P.A.) and Real Math (R.M.), teaches basic arithmetic skills. They differ from ordinary "back-to-basics" curricula by stressing development of mathematical thinking and providing activity-based instruction. D.P.A. and R.M. share several other features: diagnostic tests for periodic, individual student assessment; a system for recording student progress; and emphasis on games and other activities which reinforce newly-acquired skills.

The format of R.M. resembles traditional programs more closely than does D.P.A. R.M. provides a teacher's guide and student textbooks. D.P.A., on the other hand, can be used with any text selected by the school. R.M. provides a wide range of materials to supplement instruction; D.P.A. provides some of these materials as well as instructions for designing and developing a variety of teacher-generated materials.

OPTIONAL MATHEMATICS PROGRAMS

Ten districts implemented optional mathematics programs (including one exclusively for seventh-grade classes). All include criterion-referenced periodic assessment tests. Each program provides concrete activities which stress problem-solving skills and arithmetic concept development.

TABLE A-1
Adoption of Reading and Mathematics Programs by Grade by District[a]

District	ECRI		HILS-II		L.R.A.		STAR		Optional Reading		D.P.A.		R.M.		Optional Math	
	4th	7th	4th	7th	4th	7th	4th	7th	4th	7th	4th	7th	4th	7th	4th	7th
1			x				x	x			x		x	x		
2			x	x			x	x			x	x	x	x		
3					x		x	x			x		x	x		
4									x	x					x	x
5	x	x									x			x		
6			x	x	x		x	x			x		x			x
7	x	x									x	x				
8	x						x	x					x	x		
9	x	x	x		x		x	x			x	x	x	x		
10									x	x	x			x		
11									x	x					x	x
12									x	x					x	x
13	x	x									x	x		x		
14			x	x	x		x								x	x
15			x	x							x	x				
16				x					x				x	x		
17					x	x			x	x					x	x
18			x	x				x							x	x
19			x	x									x	x		
20			x	x	x	x	x	x			x		x	x		
21	x	x											x	x		
22									x	x	x	x				
23			x	x											x	x
24				x			x	x			x	x				
25			x	x			x	x			x		x	x		
26							x	x			x			x		
27							x	x			x	x				
28	x	x	x				x	x			x	x	x	x		
29									x	x					x	x
30	x		x	x	x			x			x		x	x		
31									x	x	x	x				
32			x	x											x	x

[a] As reported by the community school districts on the District Promotional Policy Form, September 18, 1981.

Appendix B

SUPPLEMENTARY TABLES

TABLE B-1

Reading Achievement by Gates-Eligible Students with Matched August, 1981 and April, 1982 (but not April, 1981) CAT Scores

		August, 1981			April, 1982			Difference	
Grade	N	Mean scale score	(S.D.)	Mean grade equivalent	Mean scale score	(S.D.)	Mean grade equivalent	Mean scale score	(t)
Four	470	363.5	(37.9)	2.8	413.7	(35.5)	4.0	50.2	23.7
Seven	504	442.0	(55.1)	4.7	487.7	(40.8)	6.3	45.7	16.1

NOTE. For these analyses, $p < .001$. Observed mean scale scores, which for sub-groups cannot be adjusted for the regression effect, overestimate actual gains.

TABLE B-2

D.R.P. Raw Score Gains by Gates Students in Districts 8, 16, and 24

		April, 1981		April, 1982		Difference			
Grade	N	Mean raw score	(S.D.)	Mean raw score	(S.D.)	Mean raw score	(S.D.)	(t)	(r)
Four	320	23.4	(7.9)	32.4	(8.8)	9.0	(9.4)	(17.1)	(.36)
Seven	525	31.1	(9.2)	39.9	(9.9)	8.8	(8.4)	(23.9)	(.61)

NOTE. These analyses include only students with April, 1981 and April, 1982 CAT and D.R.P. scores. They do not include special education students or those with only an instructional or raw 1981 D.R.P. score. For these analyses, $p < .001$.

TABLE B-3

Comparison of D.R.P. Raw Score Gains by Gates Students Who Did or Did Not Meet Criteria by April, 1982

		Observed 1982 raw score		Adjusted1982 raw score	
	N	Mean	(S.D.)	Mean[a]	(F)
Fourth-grade students					
Attained criterion	268	34.0	(8.2)	33.7	(37.4)
Did not attain criterion	52	24.1	(6.9)	25.9	
Seventh-grade students					
Attained criterion	326	44.4	(7.7)	42.9	(121.7)
Did not attain criterion	199	32.5	(8.5)	35.0	

[a] These adjusted means were determined from separate ANCOVA's by grade which used 1981 D.R.P. raw scores as the covariate. For these analyses, $p < .001$.

TABLE B-4

Comparison of D.R.P. Instructional Score Gains by Gates Students Who Did or Did Not Meet Criteria by April, 1982

		Observed 1982 instructional score		Adjusted 1982 instructional score	
	N	Mean	(S.D.)	Mean[a]	(F)
Fourth-grade students					
Attained criterion	268	39.9	(7.9)	39.5	(52.5)
Did not attain criterion	52	28.8	(6.5)	30.7	
Seventh-grade students					
Attained criterion	326	54.6	(6.0)	53.8	(148.8)
Did not attain criterion	199	45.6	(6.5)	47.0	

[a] These adjusted means were determined from separate ANCOVA's by grade which used 1981 D.R.P. instructional scores as the covariate. For these analyses, $p < .001$.

TABLE B-5
Gates Fourth Graders' Reading Achievement by District

District	N	April, 1981		April, 1982		Difference[a]	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
1	179	374.7	20.0	415.9	31.6	41.2	31.1
2	121	376.5	19.4	437.1	29.1	60.6	29.4
3	151	370.2	22.8	426.2	29.2	56.0	31.3
4	94	376.7	19.3	423.3	38.1	46.6	36.9
5	175	368.6	26.5	420.8	31.6	52.2	34.5
6	353	369.4	24.5	417.8	33.9	48.4	33.3
7	302	371.9	21.4	419.8	33.9	47.9	36.3
8	248	376.0	19.5	420.4	31.2	44.4	32.7
9	480	371.3	22.2	409.2	32.0	37.9	34.5
10	526	370.7	23.2	417.8	31.4	47.1	35.2
11	161	375.0	22.2	427.9	33.8	52.9	33.7
12	233	373.6	22.5	418.5	36.1	44.9	38.3
13	207	375.3	18.9	416.2	32.1	40.9	33.4
14	222	374.8	20.0	416.5	32.4	41.7	31.6
15	256	378.4	18.4	432.7	32.0	54.3	33.5
16	196	371.4	23.0	423.5	35.3	52.1	39.9
17	271	374.8	21.3	417.9	33.3	43.1	35.7
18	92	373.8	24.5	432.5	26.4	58.7	28.0
19	489	371.5	22.4	421.9	32.5	50.4	35.4
20	115	371.9	25.3	430.6	39.0	58.7	38.4
21	148	373.6	23.7	426.8	29.3	53.2	34.4
22	149	373.9	22.1	430.9	29.2	57.0	31.1
23	201	374.7	20.0	419.7	29.3	45.0	31.6
24	134	374.2	23.5	430.2	32.0	56.0	32.3
25	43	376.9	21.2	438.2	24.9	61.3	29.4
26	18	380.6	25.2	439.2	19.6	58.6	26.7
27	311	373.7	22.7	426.1	31.2	52.4	32.3
28	189	376.7	18.4	431.2	28.9	54.5	31.0
29	180	374.3	19.3	439.6	27.7	65.3	31.2
30	165	373.6	23.5	428.9	30.1	55.3	31.0
31	106	378.7	21.2	433.9	31.5	55.2	31.9
32	251	372.2	22.0	426.3	31.9	54.1	34.4

[a] For all gains, $p < .001$ (correlated t-test).

TABLE B-6
Gates Seventh Graders' Reading Achievement by District

		April, 1981		April, 1982		Difference[a]	
District	**N**	**Mean**	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**
1	214	454.2	25.7	493.9	42.9	39.7	41.9
2	84	458.1	25.8	498.4	38.2	40.3	41.7
3	184	440.5	38.8	494.2	39.3	53.7	47.2
4	143	449.8	29.4	491.0	40.3	41.2	42.0
5	216	453.2	28.8	494.7	41.0	41.5	39.1
6	246	446.5	32.6	492.5	37.7	46.0	36.8
7	340	448.8	31.3	492.1	35.2	43.3	40.8
8	470	451.6	28.8	490.4	38.1	38.8	37.7
9	481	448.7	28.8	489.0	45.4	40.3	44.8
10	585	449.0	28.9	490.7	39.1	41.7	40.3
11	254	447.6	34.2	497.3	36.8	49.7	42.4
12	260	449.2	30.1	485.5	45.4	36.3	46.0
13	301	446.9	36.6	484.0	38.4	37.1	41.1
14	389	449.6	29.5	482.9	37.6	33.3	37.0
15	189	452.1	27.4	485.1	35.5	33.0	36.7
16	188	450.0	32.7	477.8	37.0	27.8	38.9
17	529	449.0	30.6	488.3	36.0	39.3	35.6
18	185	455.1	26.0	496.1	37.5	41.0	38.5
19	481	451.2	29.3	489.6	42.4	38.4	43.2
20	264	453.2	27.2	499.4	41.2	46.2	41.0
21	187	458.1	22.5	493.7	42.9	35.6	39.4
22	151	456.6	26.0	504.5	38.0	47.9	37.9
23	339	448.4	31.7	495.2	46.6	46.8	46.2
24	239	447.5	33.4	495.3	43.2	47.8	42.5
25	71	459.4	27.1	513.4	34.3	54.0	35.4
26	31	456.3	29.7	519.6	35.3	63.3	46.8
27	298	449.2	30.4	497.3	38.2	48.1	37.9
28	158	454.7	24.2	494.9	40.4	40.2	42.0
29	259	455.0	26.6	496.5	35.1	41.5	36.9
30	151	453.3	28.0	499.0	43.1	45.7	41.1
31	252	456.6	24.5	505.7	36.7	49.1	39.5
32	289	449.8	28.0	487.9	37.6	38.1	40.9

[a] For all gains, $p < .001$ (correlated t-test).

Appendix C

MATERIALS RELATING TO ATTENDANCE

ATTENDANCE SURVEY AND CORRELATION BETWEEN ATTENDANCE AND ACHIEVEMENT

PROCEDURES FOR SELECTION OF ATTENDANCE SAMPLE

A sample of elementary and junior high schools from the five boroughs was surveyed; the sample included the same percentage of elementary and junior high schools from each borough as exists city-wide. In addition, the register size of the school (large vs. small) and the percentage of low income students (Title I school *vs.* non-Title I school) were taken into account in selecting the sample. The sample was designed to include equally large and small schools, and Title I and non-Title I schools. Data collected confirm that differences exist in attendance rates among these four types of schools. (See Table C-2.) Information on the past two years of attendance of Gates-eligible students in Gates classes was requested from a total of 103 elementary schools and 55 junior high schools; data were received from 89 elementary schools and 53 junior high schools.

CORRELATION BETWEEN ATTENDANCE AND ACHIEVEMENT

To determine whether a relationship existed between attendance and reading achievement for Gates students tested on the CAT in April, 1982, percent of days in attendance and April, 1982 CAT scores were correlated, controlling for the effect of pretest score. Separate correlations were performed for Gates students in different grades and matched pretest groups. The correlation between percent attendance and CAT scores were low: for fourth-grade students with April, 1981 pretest scores the correlation was 0.16 ($N = 4,455$, $p < .001$); the correlation for fourth-grade students with August, 1981 pretest scores was 0.09 ($N = 374$, $p < .05$). The correlation for seventh-grade students with an April pretest score was 0.17 ($N = 5,133$, $p < .001$); for seventh-grade students with an August, 1981 pretest score ($N = 370$), the correlation was nonsignificant.

TABLE C-1
Reading Achievement of Full-Year Holdovers, by Attendance Category

			April, 1981			April, 1982			Difference
Grade	Attendance category	N[a]	Mean scale score	(S.D.)	Grade equivalent	Mean scale score	(S.D.)	Grade equivalent	Scale score
Four	95-100%	1,596	369.8	(22.9)	2.9	418.7	(28.5)	4.0	48.9
	90- 94	1,060	370.3	(21.9)	2.9	415.3	(30.6)	4.0	45.0
	85- 89	741	370.3	(22.3)	2.9	412.1	(30.2)	3.9	41.8
	80- 84	358	370.0	(23.4)	2.9	409.0	(32.7)	3.9	39.0
	75- 79	217	368.9	(22.0)	2.9	409.7	(32.6)	3.9	40.8
	74 & below	644	369.7	(24.8)	2.9	406.6	(34.1)	3.8	36.9
Seven	95-100%	1,017	444.6	(31.6)	4.8	483.4	(35.5)	6.1	38.8
	90- 94	861	445.7	(29.3)	4.8	480.5	(36.0)	6.0	34.8
	85- 89	775	443.8	(30.7)	4.7	479.7	(34.8)	6.0	35.9
	80- 84	542	442.9	(31.4)	4.7	475.9	(35.8)	5.8	33.0
	75- 79	402	442.2	(33.8)	4.7	475.1	(36.6)	5.8	32.9
	74 & below	1,620	443.0	(32.9)	4.7	471.2	(38.0)	5.6	28.2

[a] Full-year holdovers, with April, 1981 and April, 1982 CAT scores and for whom attendance information is available.

TABLE C-2
Attendance Survey: 1981-82 Attendance by Students in Different Types of Schools

	Title I Schools		Non-Title I Schools	
	No. of students	Attendance rate	No. of students	Attendance rate
Grade four				
Large schools	589	89.3%	251	91.8%
Small schools	341	89.0	138	92.3
Grade seven				
Large schools	707	76.7	481	79.9
Small schools	692	72.8	151	78.1
Total	2,329	80.5%	1,021	84.2%

NOTE. The average registers of New York City's public elementary schools (686 students) and intermediate schools (1,056 students) were used to classify schools as large or small. Schools with registers greater than the average were classified as large.

Appendix D

STATISTICAL ADJUSTMENT OF PRETEST SCORES TO ACCOUNT FOR REGRESSION TO THE MEAN

STATISTICAL ADJUSTMENT OF PRETEST SCORES TO ACCOUNT FOR REGRESSION TO THE MEAN

The equation used to adjust pretest scores to account for the regression effect is taken from A.O.H. Roberts, "Regression Toward the Mean and the Regression Effect Bias" in New Directions for Testing and Measurement, Number 8, 1980, (San Francisco, Jossey-Bass), pages 59-82. The equation is:

$$\overline{X}cs = \overline{X}s + \frac{\sigma^2}{s^2}(1 - \varrho_{xx})(\overline{X}g - \overline{X}s)$$

Where, given the April, 1981 administration of the California Achievement Test (Reading), Form D:

		Grade 4	Grade 7
$\overline{X}cs$	= corrected pre-test (scale score) mean of program participants	(*)	(*)
$\overline{X}s$	= pre-test (scale score) mean of program participants	373.3	450.6
$\overline{X}g$	= citywide (scale score) mean on pre-test**	441.2	520.7
σ	= standard deviation of pre-test scale scores nationally	60.8	75.9
s	= standard deviation of pre-test scale scores citywide	53.6	66.0
ϱ	= coefficient of reliability	0.86	0.86

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*These values are computed on the following page.

**These mean scores include all students tested. They differ slightly from those reported in the 1981 edition of "New York City Public Schools Pupil Reading Achievement," which excludes special education students and the results of make-up tests.

Using the formula and values from the previous page, the computation of regression adjustment (*) for Gates students tested in April, 1981 and April, 1982 is:

Grade Four

where $\bar{X}s = 373.3$; $\bar{X}g = 441.2$; $\sigma = 60.8$; $s = 53.6$; and, $Q_{xx} = .86$

$$\bar{X}cs = 373.3 + \frac{(60.8)^2}{(53.6)^2} (1-.86)\ (441.2 - 373.3)$$

$$\bar{X}cs = 385.5$$

Grade Seven

where $\bar{X}s = 450.6$; $\bar{X}g = 520.7$; $\sigma = 75.9$; $s = 66.0$; and, $Q_{xx} = .86$

$$\bar{X}cs = 450.6 + \frac{(75.9)^2}{(66.0)^2} (1-.86)\ (520.7 - 450.6)$$

$$\bar{X}cs = 463.6$$

Appendix E

DISCUSSION OF COMPARISON GROUP STUDY

DISCUSSION OF COMPARISON GROUP STUDY

A challenge in evaluation is to offer evaluative judgments about the meaning of achievement in the absence of an obvious point of reference. A group of students has taken part in a remedial program, and has made certain gains. But how would the group have fared without the program? Informed speculation requires a comparative study.

We have located a group of students which in many ways resembles the Gates population, but which did not receive Gates services. To do this, we examined test records of New York City fourth and seventh graders in 1980-81 (the year before Gates), and selected those students whose CAT pretest scores were comparable to those of Gates participants. This procedure allows us to evaluate the program's impact, but it presents some methodological problems.

First, while predating the Gates program, the comparison-group may still be considered a treatment group of some kind. Like, the Gates group, it consists of the lowest scoring segment (approximately 20 percent) of students at their grade level. We have no systematic information about the kinds of instruction (including remedial work) these students were receiving. It is difficult to establish whether the instruction given to this group matches that which our Gates population would have received in the absence of the program.

Secondly, there is some overlap of the groups being compared. Some Gates fourth or seventh graders (1981-82) were members of the fourth- or seventh-grade classes (1980-81) selected for the comparative study. This overlap presents measurement and interpretation problems, but it is not extensive enough to invalidate our study.

Appendix F

TESTING SCHEDULE

TESTING SCHEDULE

Date	Test	Students Tested
April, 1981:	California Achievement Test-Reading (CAT), Levels 14 and 17, Form D	All fourth- and seventh-grade students, except CREST-eligibles
	New York City Mathematics Test (N.Y.C.M.T.), Levels Red and Blue, Form A	All fourth- and seventh-grade students
	Criterion Referenced English Syntax Test (CREST)	All LEP students in grades four and seven who had been in an English language school system for less than four years
	Degrees of Reading Power (D.R.P.)	All students in districts 8, 16, and 24
August, 1981:	CAT, Levels 14 and 17, Form C; CREST	All Gates students who chose to be tested
January, 1982:	CAT, Levels 14 and 17, Form D; CREST	All Gates students in the fourth and seventh grades
April, 1982:	CAT, Levels 14 and 17, Form C	All Gates students in the fourth and seventh grades
	CAT, Levels 15 and 18, Form C	Fifth- and eighth-grade students
April, 1982:	N.Y.C.M.T., Levels Red, Green, and Blue, Form B	Fourth-, fifth-, seventh-, and eighth-grade students
	CREST	CREST-eligible holdovers
	D.R.P.	All students in grades four and seven